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HOME ECONOMICS AND RURAL EXTENSION[1]

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This discussion makes no claim to possession of any considerable technical information regarding that body of knowledge which is so rapidly giving Home Economics a recognized standing as a science. The topic is to be considered from the point of view of one who believes profoundly in the value of the achievements of science, and who believes that science has not performed its truest and fullest function until it has become dynamic and effective in the daily activities of those who compose the masses of our population. Science is constantly striving to rationalize in the minds of men the phenomena and processes of nature which are now occurring or which may be induced to occur; but far more than this, science must utilize its rationale of nature in the practices of men. Men who have discovered or have approximated the rationale of nature and organized her phenomena, processes, and laws into coherent sequences have produced our tangible evidence of science. But this sort of science, though fundamental, is essentially static. It becomes dynamic when it has come into the lives of the world's workers and has rationalized their daily relations with nature and natural resources.

When Robinson Crusoe and his man Friday were left alone upon the unknown island, they suddenly came squarely face to face with the necessity of securing food, shelter, and happiness from their new surroundings. Each man, guided by his own previous experiences,

[1] Presented at the Sixth Annual Meeting of the American Home Economics Association, Ithaca, 1913.

began to interpret the possibilities of the environment. Friday saw terrifying dangers hiding in the shadows, but Crusoe took command of the natural resources of the island and by means of goat and fire provided food and prepared shelter and conveniences which increased the comfort and happiness of both men. Friday, devoid of antecedents which led him to face nature, analyze her factors and turn them to his uses, was in sharp contrast with Crusoe, whose attitude and training enabled him to minister to his wants in a new region. Furthermore, Friday, unable to order affairs for himself, became an assistant in executing the plans made by the better trained Crusoe. Relative independence and production of comforts and happiness nowadays depend in general upon ability to use knowledge in definite intelligent ways, toward definite, intelligent and worthy ends. The present demand upon science is that it become dynamic and purposeful in common affairs, as well as special and intensive in the researches of the differentiated fields of science. We should therefore consider the inherently intimate relation of science to more purposeful rural education.

The Rural Situation

1. Agriculture. In our splendid advance in developing purposeful education in rural districts, attention has been focused upon agriculture, and upon those phases of agriculture which deal with larger and better productivity, diminishing cost and waste of materials produced, and conservation of resources for future production. This was logical, perhaps, since without production and conservation all else fails in rural life as elsewhere, but we always need to count the cost at which increased production is secured. In 1910, boys in a number of southern states entered into a contest to see how much corn they could grow upon one acre of ground. Their acreage yield at the close of the contest was found to range from $83\frac{1}{3}$ bushels to $228\frac{3}{4}$ bushels. But the cost of production ranged from 8 cents per bushel to 49 cents per bushel. One boy produced 119 bushels at a cost of 8 cents per bushel, while the boy producing $228\frac{3}{4}$ bushels incurred a cost of 43 cents per bushel and one producing $83\frac{3}{4}$ bushels incurred a cost of 49 cents per bushel.

Because of the fact that productive agriculture has had chief emphasis by those who are advocating better things in rural education, productivity may have been advanced but possibly at a high cost, or at least no large gain to rural life. Agricultural education is recognizing

its larger functions, and is turning its attention, not away from productivity of farms, but toward betterment of rural life. Fundamentally farming advances when rural people are better and happier. That farm productivity depends upon the farm home is more fundamentally true than is even yet generally recognized. One case will serve as a typical illustration of many cases of farm productivity at too great a cost. On a small Indiana farm is a farmer 54 years of age, a man known for his good farming methods, and his ability to produce, feed, and market good farm animals. But the inefficient home, involving poor food, irregular hours for meals (sometimes their omission), no ventilation at night, and doors open with passive welcome to poultry in the daytime, financial penury in home expenditure, at times, and prodigality at others, unhygienic personal habits, were factors which led to disease; and of a family of five members, but two, the farmer and one son, are left. His time and energy for making his farm productive, and his interest in doing so have been well-nigh removed because of the failure in which he seems to bear a large measure of responsibility.

2. *Home Efficiency in Rural Life.* The present situation relative to efficiency of rural homes shows conditions as diverse as those in agricultural productivity. Our general knowledge and the exact information presented to us by rural surveys in Minnesota, Wisconsin, Ohio, New York and elsewhere present in a striking way, facts relative to home efficiency, facts which were already known in part, but are now more insistent for attention because more universal than our individual experiences had taught us to regard them. Similar facts are known relative to the conditions in city homes, but it is not particularly helpful to deal in comparisons of country and city homes.

Quite recently a party of students, who planned to spend the night in camp in the vicinity of their field studies, had great difficulty in finding a farm house where they could purchase bread, butter, eggs, and potatoes to supply their needs. The region certainly did not represent typical farm homes, but since the supporting industries in the locality in question were agriculture, orcharding, gardening, and dairying, it seemed reasonable to suppose that satisfactory supplies could be easily secured. After approaching four homes and being turned away, either by the refusal of the occupants or the unclean and unhygienic conditions of the household, they were forced to be satisfied with hard bread at ten cents a loaf, butter too strong to be disturbed, a few potatoes, and two dozen eggs which represented

several days' collections from a large number of hens. The case is an extreme one and by no means typical, for, grading from country homes of this illustration, there is an increasing efficiency of farm homes reaching up to as attractive and efficient as exist in country or city. But the need of modern science in home management is very evident.

3. The Rural School. Various publications and the individual experiences of many of us, show that the rural school situation is in general the most stagnant and static part of our whole educational system, and is also one of the points for most strategic and hopeful attack now open to educational people. In a recent bulletin on the Status of Rural Education in the United States,[2] we are told that "few realize the magnitude of the rural educational problem now before us. It is not generally known that illiteracy in rural territory is twice as great as in urban territory. This is in spite of the fact that thousands of illiterate immigrants are crowded into the great manufacturing and industrial centers. The illiteracy among native-born children of native parentage is more than three times as great as among native children of foreign parentage, largely on account of the lack of opportunities for education in rural America, in which comparatively few immigrants live. Few know that approximately 62 per cent of the total school enrollment is in rural schools, but that the rural aggregate attendance is 51 per cent of the total aggregate attendance; that about 60 per cent of those in rural schools are in one-teacher country school houses, and that the instructional work in the average one-teacher country school is of very low grade." In one district school during the year just closed there were gathered the pupils from four school districts, aggregating 52 pupils. Thirty years ago from the limits of the one central district there came almost as many pupils. These pupils in the consolidated school were taught last year by one teacher, a young girl, who in inefficiency and limited educational outlook and enthusiasm, is typical of a tragically large number or first-year, one-room-school teachers throughout the United States. This number of first-year rural teachers is estimated to be annually almost one-third of the whole number of rural teachers. In 32 states there are 147,227 one-room-school teachers. In 21 states there are 3,621,278 pupils in one-room schools. When we think of the fact that almost one-third of these pupils are taught by teachers who too often are young and inexperienced, often teaching their

[2] U. S. Bur. Education Bul. 515.

first and only school year with no serious purpose of making life better and more worthwhile to those who live in their school community, the situation in its complexity begins to appear.

Consolidation of country schools may result in bringing together pupils from several districts so that their work may be better graded, and that fewer classes may be assigned to one teacher. It may result in socializing the school, and enabling it to serve as a community center of interests; or it may result merely in bringing together in one room the pupils who previously had been in two or more districts, and may bring no educational advantage except possibly that of the association of large numbers of pupils.

Another changing feature of the rural school situation is also in point. Up to the present our foreign immigration has served to swell the urban population and to complicate urban educational problems. The present tendency seems to be for more of our immigrants to go into rural communities. While the percentage of rural illiteracy exceeds that of the city, the city's good showing seems to be due to its better educational system. When the percentage of immigrants in the country has increased, if present rural education is unchanged, we should expect an increase in rural illiteracy. Without attempting to discuss the many reasons for the present situation in rural schools, certain demands for the increased efficiency of the school in rural life need to be considered. The school problem represents a level of instruction that is not far from that which it had a half-century ago. But industrial life, agriculture, sanitation, home betterment, and city education have moved forward and have left the country school in essentially its old position. Rural social conditions have changed and the school has not met the new conditions. Bodies of knowledge relative to rural industrial and home life have developed, but the school still deals chiefly with the old bodies of knowledge, though much of their content has ceased to be purposeful in rural life. The rural citizens in some localities have come to regard the rural school as a factor extraneous to the business of the farm and home. They send their children to school often because of traditional belief that it is a good thing to do, but with increasing frequency they are inquiring about the results of the school's work. Many, probably most of them, are ambitious to send their children to the city schools where a more effective education is given, but one which does not often fit for country life either in content of material studied, or in belief in the desirability of living a rural life. Rural teachers have increased

their training for their work less rapidly than other teachers, the standing of the rural teacher in the rural community has changed greatly, since the school's work has not progressed in proportion to the agricultural conditions and rural conveniences. Indeed, it seems probable that there has been an actual decrease in efficiency of rural teachers in many parts of the country. A generation ago the salary paid for rural teaching, while actually less than that now paid was more than it now is when measured in terms of its purchasing power. It was also larger in relation to salaries paid for other kinds of work than it is now. Even in one of our largest universities an efficient, paid assistant recently asked for leave of absence for six months, saying that he wished to follow his trade of bricklaying in order to accumulate some money by means of which he could carry on his research when he should return to the university at the end of the six months' absence.

The rural school salaries, together with other causes, have done much to eliminate men from the schools, and to hasten the passage of better trained women to the city schools and to business. Elimination of the men is especially serious to rural education, since these men were more likely to possess the means of relating school to farm life. Furthermore, changes in rural social and economic conditions, and in teachers themselves have brought a discontinuance of the beneficent old-fashioned evening in the home, when teacher, pupils and parents discussed community affairs together. Such an evening nowadays is rare, and would probably seem equally strange to teacher, parents and pupils.

The situation just described represents the usual one in the United States, but there are numerous oases in this arid region. These oases are conspicuous because of the introduction of one type of work, namely, that which arises from practices and problems of the home life of the pupils and their parents. One rural school has a teacher who lives on a small farm near the school house. Upon the school ground he and his pupils have constructed a poultry house in which a small number of hens are well kept. The pupils and the other residents of the school district have discovered that there is a highly interesting body of knowledge about poultry—knowledge entirely worthy of the attention of intelligent persons. Another one-room school conducts a pupils' baking contest, and the standard of bread making in the district has improved. Many other schools here and there throughout the country are vitalizing their work by using and

dignifying and rationalizing rural practices both on the farm and in the home.

Such features of the content of school work present the best basis for arithmetic and for language because the problems and descriptions are real and not imposed. The history of peaceful pursuits contributes more to belief in rural life than the history of warfare. The story of house building if adequately told is as interesting as that of building a warship, and immeasurably more practical, and more calculated to lead to attempts to build good homes. Furthermore, since rural teaching is now done so largely by women it seems logical and imperative that problems in home betterment should supply much of the material for vitalizing rural school education. There is no inherent educational reason why rural schools should not use the material which seem worth while to the pupils, and there are many educational reasons why the schools should use such material.

Even if there are numerous schools now vitalizing their work and beginning to give to the country boy and girl the kind of rural education that they need, at least two major difficulties remain. First, most rural teachers and communities do not have the educational outlook which will enable them soon to incorporate into their own schools the types of reorganization that have proved beneficial. There is serious need of thorough and definite constructive reorganization of the rural school course of study upon the basis of rural life. Some of the hopeful experiments cited are of sufficiently comprehensive nature to give a good foundation for this general reorganization. Secondly, an even greater immediate difficulty rests in the fact that with effective schools, the practices of the home are quite often very hard to reach. Most housewives regard themselves as fairly good housekeepers, and the shortcomings and traditions of the school are such that it is not easy to secure general coöperation of teacher, pupil, and parent. We can not wait until those now in the schools will be the men and women of the homes, even granting the questionable point that the rural school will soon be giving dynamic education to its boys and girls. The homes as they now are, with their conservative adult members as well as boys and girls, must be reached, and what is known about making more efficient homes must be made available to those who can not or will not be helped directly through the schools. This must be done for the direct benefit to the adults; and if not done for them, their influence on what the schools may do for their children may make it more difficult to secure effective results.

Methods of Extension Work in Home Betterment

1. Extension Through Those Who have Studied at Educational Centers. When we turn attention especially to methods of extension work for home improvement it must be noted at the outset that one of the oldest and most effective methods of agricultural extension is by means of persons who have studied at educational centers and then returned to rural situations. If they introduce new, better and more rational practices, their neighbors, at first often incredulous or adversely critical, eventually do likewise. But we must remember that these better trained members of the community are rarely interested in educating others to better ways, and, not feeling a duty to others, may even be conservative regarding extending helpful knowledge.

2. Bringing People to Educational Centers. Agriculture, by means of its short courses for farmers, led the way for similarly planned short courses in home making. The extensive and intensive value of these courses no one can estimate. The intelligent instructor knows that he has before him in his short course practical women who, like the tiller of the soil, has her own more or less established practices, and that to influence these women they must be convinced by clear, direct facts, usually associated with a demonstration of the process and product under discussion. One of the best results of the short course in agriculture and Home Economics is the positive demand upon the instructor to select those things from his subject that are worth while for common knowledge and to present those things so that they may be clear and may appeal to persons who are not technically trained in the field. The demonstrator can not say as sometimes used to be said in laboratories of science, "The experiment does not work but the principles hold just the same." The experiment, or demonstration, must work and the product must stand the test. Again we must recall, however, that those who take the short courses in agriculture and Home Economics are those already most progressive in their communities.

3. Moving the Educational Center to the People. The growing popularity of various attempts, in one form and another, toward moving the educational work to the people is best illustrated in the corn trains, cotton trains, etc. Rural extension in home making is also fostered in the same way. The University of Minnesota's moving camps of university instructors are of striking interest. But these

train and camp activities are more in the nature of relatively disconnected suggestions and valuable stimulation of desire for regular instruction than of the kind of activity ultimately to be sought through rural extension. We need more prolonged contact and more permanent results than seem likely to follow from special trains and camps.

4. Publications Sent to Rural People. One of the oldest and most effective agencies for rural extension in agriculture, horticulture and gardening is the system of publishing and distributing pamphlets direct to those who care to receive them. In this as in most other movements toward rural betterment Cornell University is the country's leader; their pamphlets now averaging one and one-half per week are constantly carrying direct to the people helpful material of many kinds. The increasing rural confidence in the publications from centers of rural education constantly imposes tasks of more serious nature upon those who prepare these publications. Farmers and their wives, when awakened to possibilities of rural betterment, must not be misled and discouraged by following dogmatic directions regarding practices which are not applicable, or which are still in an experimental stage. Those extension bulletins which have led to intelligent experiment in the work of farm men and women have been productive of much good and those who prepare extension publications need the note of warning that is ultimately far more helpful to maintain the experimental attitude except in those causes where adequate verifications justify specific formulae for action.

5. Permanent Demonstration Centers. In agriculture it has been found helpful to establish many local demonstration centers. There seems to be no prohibitive reason why educational agencies should not also establish home making centers, semi-public homes managed by the state as a means of demonstrating the science of home making. No doubt types of difficulties would arise which do not inhere in agricultural and horticultural demonstrations, but if it is reasonably clear that the desired results may be secured the difficulties may be met.

6. Bureau to Keep in Touch with Each Family. All of the above extension agencies, however, are less definite than are needful, less certain of bringing the desired response in the home, and it seems that a new type of rural extension is needed in order to affect home life most vitally; this is needed also as a means of utilizing more completely the extension agencies now being used. If there might

be a central bureau for the state, or in each district or a group of districts in large states, this bureau might serve many important functions in rural extension. It should collect data regarding the home life throughout its entire district, so that the real needs are adequately known. Such a function is already served in part by one or two extension centers, notably Cornell, and by various local surveys. This bureau should be a means of constant intelligent relations between the educational center and each family within the territory covered. But this intelligent relation could not be established merely upon the basis of abstract, categorically gathered facts about the needs of the homes in the territory, for genuine sympathy and understanding of rural life is essential to the first steps in securing the desired intelligence. Genuine sympathy and intelligent coöperation can be established only by visits from field workers. Obviously field workers are rare who possess the proper personality, proper knowledge, proper ideals, proper ability, to gain a welcome entrance within the walls of restricted homes, and when once welcomed, to elicit the desire on the part of the persons within the home for the kind of assistance that the state wishes to give. If teachers of Home Economics and agriculture are really serious about making their material dynamic there must be an increase in the number of workers who can accomplish this most difficult task. It is one thing to discover a scientific truth—it is another thing and the ultimate one, the real one to make that truth fruitful in making life better and more purposefully productive. Our center of education must face the problem of developing persons who can effectively carry out this work. The difficulties are doubtless very great, but the opportunity for good is not measured by these difficulties, as has been shown by the few who are already engaged in this work.

Such a central bureau as that suggested would need many careful surveys of rural life, some of which have already appeared. The survey would guide the proposed bureau in individual home work. Also, the bureau would be thus guided in calling upon its coöperating academic and practical departments for exactly the kind of material needed.

Our extension activities have already done much good, but when we count the good in terms of what is still to be done, we should allow our relatively successful past experiences to guide us into new plans for meeting the whole rural situation. The cost of such a bureau of extension would be great. So is the cost of war. The world spent

last year at least $2,250,000,000 for armament in one form and another. This sum exceeds, annually, we are told, the total sum expended upon the college courses of all young men and women who have been graduated from all colleges of all lands since college education began. In the face of these facts we dare ask for the best young men and women of the country with adequate funds to carry on the enlargements of peaceful pursuits and the life that is more permanently satisfying to intelligent, progressive people.

AGENCIES AT WORK IN NEW YORK STATE FOR THE BETTERMENT OF FOOD CONDITIONS[1]

SUSANNAH USHER

There is, at present, a popular interest in the production, distribution, purity, and price of food; but few people make practical use of the agencies that would help them in an intelligent understanding of the subject.

Since this study is an attempt to state some of the agencies that may be called to one's aid in New York, the state and municipal departments have been given more emphasis than those connected with the federal government.

A new Federal Bureau of Markets has been created in the Department of Agriculture, which, before outlining a policy, intends to make a study of rural conditions.

A National and an International Federation of Farm Women are also studying rural problems.

We may expect these lines of work to have a wide significance from the standpoint of intelligent coöperation among producers, and between producers and consumers.

In New York City information may be procured from various state and municipal departments to which every citizen has a right to refer.

The City Board of Health publishes a sanitary code, and bulletins, such as the following: "The Milk Supply of New York City and its Control by the Department of Health," and "Pasteurization of Milk with Suggestions as to Methods and Apparatus to be Employed." Last spring the Board of Health opened a permanent exhibit at the Museum of Natural History, which will be a center for the dissemination of information to the public.

[1] This study was begun January, 1913.

The Bureau of Weights and Measures issues a pamphlet, entitled "What the Purchasing Public Should Know," and has its offices open at convenient hours for consultation, and for testing the accuracy of scales.

Mrs. Elmer Black, a member of the advisory board of the New York Terminal Market Commission, has published a pamphlet on "Some Observations, Comments, and Comparisons of European Markets." This pamphlet emphasizes the fact that much of our high cost of living is due "primarily to economic waste in the transportation of food products, and secondarily to our systems of distribution."

The Mayor's Market Commission held hearings during last winter, but its report is not ready for distribution. According to reports in the public press, the commission has found the market facilities in New York antiquated and cumbersome. The remedy suggested is, "that large terminal markets be established in each borough which shall be equipped with facilities for distributing at wholesale to dealers, and for supplying the public at retail. But the main thing is to so deliver the food supplies that the retailer will be able to sell more cheaply to the consumers, for the greatest number of people have neither the time nor desire to travel any great distance to do their own marketing, and take such things to their homes."

A committee has, also, been at work on the push cart problem, and has recommended that push cart peddling in the streets be prohibited, and that permanent shelter be found for them on property owned by the city.

The State Board of Health is undergoing reorganization, and so the new sanitary code promulgated by the Public Health Council has not yet been adopted, but the annual report for 1912 gives an idea of the work undertaken by the department. It is interesting to note that it inspects summer resorts, and gives information about the milk, water, and ice supply.

The laboratory of the State Board of Health has made special reports on purity of foods. The reports state that "the ten months' clause in the cold storage law is complied with—the result being that large quantities of foods are placed on the market which would otherwise be held for longer periods." Investigation has been made into shell fish pollution in Jamaica Bay, also special examination of oyster "floating" places and storage boxes. The health department publishes a monthly bulletin and holds exhibits at state fairs.

The State Agricultural Department has charge of the pure food work, and publishes information for distribution. Under a new law the Commission of Agriculture is given charge of the bonding and licensing of commission merchants.

During the 1913 session of the state legislature a number of new laws were enacted relating to the food question. The reorganization of the State Department of Health under a new law gives the health commissioner increased powers over cold storage plants, including licensing power after inspection of warehouse, and he also has the power to inspect the kitchens of all hotels, restaurants and other public places.

The State Factory Investigating Commission after two years' work drafted thirty-two bills which covered the following subjects: Reorganization of the Labor Department, prohibition of child labor in canneries, sanitation of factories, fire hazard, prohibition of cellar bakeries, and revision of bakery laws. The passing of the bills relating to clean factories and bakeries is a step forward toward the production of food under sanitary conditions.

The New York legislature has passed a bill, similar to the federal food and drugs act, which is designed to protect the public from insufficient weights and measures of package contents. The New York act prescribes "Method of sale of certain commodities; certain sizes of containers when used for vegetables, produce, and fruit; and net weight contents of containers to be indicated on outside thereof."

As a result of the work of the State Food Investigating Commission, several bills concerning the creation of coöperative companies, agricultural, coöperative banks, and bonding of commission merchants, became laws. These laws enable coöperative companies to be formed in New York State "under uniform and secure methods," and by aiding in the solution of the problem of food production and distribution they will benefit both farmers and commission merchants.

The sale of milk has been safe-guarded by an act of the legislature pertaining to unclean receptacles and places for keeping milk, and licensing of milk-gathering stations where milk is bought.

A "Report of the Committee on Markets, Prices, and Costs of the New York State Food Investigating Commission" states that "there has been little work on economic lines looking to lower costs, and to the influence of inadequate and uneconomical market facilities as a

factor in raising the price of food products. The work of the committee has been to make such a study."

The New York State Grange has a standing committee for the consideration of food production and distribution which may have something definite to report at the next annual meeting.

The Committee on Purity of Articles of Commerce of the Conference of Commissioners on Uniform State Laws is at work on a uniform Cold Storage Law which in many respects will be along the lines of the Massachusetts Law.

The formation of the Medical Milk Commissions began in 1890 when the Medical Society of New Jersey made an effort to improve the milk supply. The outgrowth of this effort was the Medical Milk Commission of Essex County, N. J. The interest spread to other states and made advisable the formation of the American Association of Medical Milk Commissions. The object of these commissions is to produce "certified milk," *i.e.*, clean, wholesome milk; and they have been influential in improving the general milk supply.

"Certified Milk" for New York City is produced under the supervision of the committees appointed by the Medical Society of the County of New York and the County of Kings.

The New York Milk Committee was organized by the New York Association for the Improvement of the Conditions of the Poor in 1906, and incorporated as a separate enterprise in 1910. The four cardinal points in the Milk Committee's campaign are: Education of mothers in the care and feeding of babies, clean milk, milk standards, and coöperation between public and private agencies.

The Milk Committee has to its credit the organization of the National Commission on Milk Standards, whose first report was printed in the Public Health Report of the Public Health and Marine Hospital Service of the United States. Another offshoot of the New York Milk Committee is the New York Dairy Demonstration Company which aims to produce certified milk at a reasonable price.

The committee investigated the character of the milk sold in hotels and restaurants and found the bacterial count in some cases very high. The interest of the managers and proprietors was so awakened that they formed a Pure Food Association whose object is to improve the quality of food served in public places.

The Society for the Improvement of the Condition of the Poor has added a new department of Social Welfare, which, after studying

food conditions, will outline a scheme that will coöperate with, but not duplicate the work of the consumers.

The Food Committee of the Consumers League has been active in the campaign to protect food offered for sale from dust and flies. It helped the State Factory Investigating Commission in its work for clean bakeries, and, at a public hearing of the commission, advocated the following: "All windows and doors of bakeries to be screened; one department responsible for inspection; new cellar bakeries to be prohibited as in Chicago, Providence and other large cities." The committee does educational work by talks on food, exhibits, distribution of literature, and the publication of magazine articles.

Among the newer organizations are the Housewives' League and the Daily Food Alliance. The Housewives' League lays particular stress on market conditions and legislation. The Daily Food Alliance has for its platform, "pure food, full weight and measure, and sanitation."

The Woman's Municipal League has not spent much time on the food problem, but it has worked for better bakeries, and has inspected the food stands in the public parks. Last April the League was invited to participate in a conference on the "Cost of Living" to be held under the auspices of the American Academy of Political and Social Sciences.

The National Civic Federation has a pure food and drug department whose "object is to promote uniform legislation on this subject among the states, to work for effective coöperation between state and federal government, and to demand better enforcement of existing laws," etc.

The Fly Fighting Committee of the American Civic Association is doing good work for more sanitary food.

This article will not attempt to consider the steadily growing coöperative movement which will soon be a factor in reducing the cost of living.

Few people have time or desire to consult all the sources of aid at their command. A need is felt for different centers that would act as clearing houses for information relating to food in its various aspects, and permanent exhibits which would make this information more concrete and valuable. These are necessary, as the basis of success of all agencies working for the improvement of food conditions is the education of the people.

DUTY OF THE HOME AND SCHOOL CLUBS IN HELPING THE HOME ECONOMICS COURSES IN HIGH SCHOOLS[1]

MARY HINMAN ABEL

We are told that there are now well-equipped Home Economics departments in high schools that are not used to their capacity because where the course is elective many girls do not take it, choosing in some cases a study hour instead, which will free their evenings for pleasure. This would seem to be a proper case for consideration in a Home and School Club. Is the right influence being exerted at home to induce the girl to take the Home Economics courses? In our new appreciation of the wise hints to be found in young inclinations and desires, are we in danger of giving up all effort to put at their disposal the benefit of our life experience?

A man was known to say, "I am not going to advise my boy about his profession. I don't want him saying to me some day, 'You advised me to take up what I've failed in.'" Such an attitude seems to be a cowardly shirking of our responsibilities. We must run the risk, if risk there be, in helping them to understand themselves and the conditions they will probably meet in life. Then with the utmost patience we must see them make a try, often futile, at perhaps widely different occupations to find what fits them. Because a boy is clever with tools we cannot at once conclude that he is to be a machinist. He may have a stronger bent in some artistic direction, maybe as an actor or journalist if given a chance to find himself. Most of us want to do our work in the world if we can find it. What seems to be laziness is often lack of interest or the friction which comes when our job is a bad fit: a boy who is a born scholar held to digging holes for fence posts; a man who loves monotony forced into the sharp current of events, as a timid son put at the head of a bank because his father owns most of the stock. A change is sometimes magical in its results. A woman who was a failure as a cook went into a laundry. She was as happy as the day is long. "All I have to do is just smooth back and forth," she said. On the other hand a boy full of force and inventiveness was heard to say, "I just hate this lathe I have to watch, it never wants anything all day but oil," and so it goes, round pegs in square holes. But in how many cases it is not so much that the job is a bad fit as

[1] Given before the Mother's Club of Baltimore, January 14, 1914.

that the workers have not been taught to see the possibilities of interest in the work and its bearing on their lives.

With the attention now given to play there is little need to be afraid that our young people will not have what they call a good time, it is almost fun enough to be young; but those splendid years between thirty and sixty ought to be full of health and power and joyous activities while they will be far otherwise if youth is not well spent. Life is going to be longer than the youth can believe, and much more interesting and there need be no gray, faded waiting for death even at seventy.

It cannot be denied that it is harder to help a girl than a boy to train for life; modern industrial changes have affected them more profoundly. In the last fifty years over 300 occupations have been opened to women and there are said to be 6,000,000 women in this country earning their living outside the home. There is every reason to think that these occupations offer a valuable training in accuracy, in breadth of mind and in understanding of the world we live in, but most of us feel that a few years only are needed to give this training and to insure a means of self support when taken up later in lite, and that the woman finds her fullest development as an individual and a citizen in the home. How prepare for this complex life? Only by giving the girl early to understand this double function, also that she must train for the duties of this home, and earn and save for it just as her brother does. There is everywhere a demand that women should be paid as much as men for the same work. Then they should certainly expect to work and save for that home-to-be. They can then venture on a marriage which would otherwise be imprudent.

In European countries this is taken for granted. The wealthy girl has her dowry, the working girl her savings to help set up the home; here the girl too often looks on all she earns as her own to spend now and as she pleases. A girl in a northern town who was earning $1500, was asked why she spent this all on dress and travel, instead of saving for her home. She is what is called an advanced woman, but she expected the man to attend to that. It is a well known fact that economic pressure—the lengthening time required for preparation for every profession—is pushing forward the time for marriage. Now that women have the chance to earn they must also save for the home they will want whether they think so now or not. If they do not marry there will be relatives or friends to gather around them and there are always children to adopt. It is not easy without seeming sentimental to say what the home has meant to the race. Who does not know old

houses that have sheltered four or more generations? Their ample rooms, their garrets where children who are now gray haired men and women have played hide and seek are full of delightful whispers of the past. Were you ever homesick as a child? One realizes then the blessed meaning of those sheltering arms of home. Now a woman can make a home, a man cannot. If every woman would stop and realize that this precious thing is with her to make and keep or it does not exist, would she not count any sacrifice small for its attainment?

Probably sentiment in the marriage relation would be better served in the end if girls were taught to take a more open-eyed, responsible view of marriage. A girl ought to say to herself: "This man I am going to marry is healthy, moral and efficient and I am fond of him, or I would not have accepted him. Together we are embarked on what Arnold Bennett has called the Great Adventure. It has in it difficulties and risks but also great and sweet rewards, and it is our part in the world's work. We are going to found a home and I must not think so much about happiness; it will come if I can make an all round success. This man's good qualities I can enhance, I can help him become more efficient in body, mind and spirit, if I build up around him a happy home. This is my job and I am going to throw myself into it as whole heartedly as did my great-grandmother when she helped her man to found a home in the wilderness."

This home cannot reach its spiritual ends unless its practical requirements are met. It cannot teach the children habits of order and give forth a spirit of peace and harmony if the furniture that has been chosen is an incongruous lot, and the contents of drawers and cupboards are in confusion. It cannot teach the young people to care for their health if the food is not properly chosen and cooked. It cannot be fair to the money earners of the group unless good ethical and economic standards obtain for the spending of the income, unless there are honest dealings with each; there is little sweetness and light in any household whose mistress is worn and harassed because she has never conquered her work by learning to save steps, to choose proper implements, to get a new window in the kitchen if she needs it.

A young girl, too much petted and shielded, said, "What is this Domestic Science? Keeping flowers in the vases, I suppose, and all that?" It was significant that she said "and all that" for it showed some glimmer of an idea that a woman has her work in the world as much as a man and it is not all keeping flowers in vases. Why, we have forgotten in the new ease of the last generation that before us lie

stretches of time when all women worked, when only queens were idle. See the proofs in Mt. Vernon of the activities of Martha Washington, the first lady of the land. A woman must work for her home before and after or meet failure in a matter very essential to happiness. We do not spare the man. The burden of the support of the family is laid on him for life.

What is meant by the new housekeeping to which reference has been made? Simply that science is being applied to this long belated industry, showing better methods, offering new appliances and suggesting a boundless field for improvement. First of all this makes the work interesting and takes away the feeling of drudgery which attends unmeaning repetition. Indeed, housework is the most interesting work in the world and precisely because it is not finished, not all cut and dried in its methods, but constantly growing and adjusting itself to to growing knowledge and our daily needs. Any woman in any house can, by taking thought, find an interesting field for her inventiveness. Why does her arm get tired at the ironing board? Suppose she stops and considers instead of continuing to place that ironing board between the same two tables that generations have used before for the purpose. If she finds that the board is too high she should lower it so that it will give a better "purchase." If she counts the needless steps in a too large kitchen she can draw an imaginary line diagonally between two corners and call one triangle laundry and forget it except on Mondays, and then place the mixing table and shelves on the kitchen side of that imaginary line in the center of the room and near the stove and sink. By this change miles a week are saved; by reading the twelve rules for shop efficiency drawn up by Mr. Harrington Emerson,[2] she can find other applications, and it all becomes an exciting business indeed.

Note that hints like this have to come to her from outside, just as the bricklayer had to hear from this same Mr. Emerson that he could lay twice as many bricks in a day if the bricks were properly sorted and piled by cheaper labor and put level to his hand. Our workshop end of the house is not fitted out as an experimental laboratory nor have we time or training to run one. Some one else must find out good ways for us and give us the results. For instance, we may make jelly once a year, and if "the jelly will not jell" we forget by the next summer what little light we had on that problem. But a young woman in

[2] Twelve Principles of Efficiency. By Harrington Emerson. New York: Engineering Magazine Co., 1912.

the Home Economics Department of the University of Illinois[3] spends three months on jelly making with the juice of many kinds of fruits—green, half ripe, and ripe, picked before a rain and after a rain, boiled without sugar, boiled with one quarter its bulk of sugar, one half, three quarters and equal bulk, and the results are weighed, analysed, described and photographed, and then tested by others; and finally, in a little pamphlet is written the whole history of jelly making for our benefit; if we fail again it is our fault. This is a good illustration of the relation between the home industries and organized knowledge in educational courses. Or, suppose we need to know what is the most economical fuel for cooking—gas, kerosene or alcohol. This question was asked of a woman who was demonstrating an alcohol stove in a department store. "Well, I can't tell you exactly," she replied, "but a man was in here who had one of these burners. He's a man who goes to work early and he gets his own breakfast and he told me his teakettle, and its larger than this one, boiled in just no time!" A much wiser person might have given no better answer. That question requires for its settlement instruments of precision to be found only in laboratories. All such work is at the disposal of the teachers of Home Economics. We can learn only from trained people the best methods in these household arts. By dint of practice the older generation has learned much, but practice added to the newer views will go further. The new word is not tradition, but knowledge.

There are those who say that it is all nonsense to train in cookery and the household arts in general. They are all going to follow the soap making and spinning and weaving out of the house. For twenty-five years we have watched for that going out and have failed to see much effect on the processes that are most intimate to the family comfort and well-being. Two influences have been at work to falsify those early predictions.

First. Our growing knowledge of hygiene makes us fear to use the product of uninspected bakeries, and cooked food depots, and laundries, and for the most part they have not kept their promise as to reducing prices to where the home cannot compete, nor has the all-important problem of hot delivery of food been satisfactorily settled.

Second. Labor-saving devices have been improved far beyond the expectations of twenty years ago and the use of electricity and gas for

[3] Principles of Jelly Making, *U. of Ill. Bul.* vol. vii, no. 7.

cooking has still further lightened the housewife's task. Everywhere houses are better planned for the work to be done in them. It seems very nearly certain that much of the cooking, the lighter laundry work, and the care of children will all be done in this coming generation in the individual home. First, for the sake of economy; during the years when the mother cannot add to the income she must help to save it. Second. Because these processes, especially cookery, are so intimately connected with the health and comfort of the family that they need close personal oversight; we cannot in most cases trust the so-called expert. Third. Because there was never devised such an educational plant as the household industries present. Here children may see the principles of physics and chemistry applied, such as the nature of heat and its application; here obtain such a knowledge of food and the simplest processes of cookery as every human being should possess for self preservation; here learn a thousand lessons in neatness, precision, observation, cleanliness and its need. But the mother must be well trained in order to do this teaching.

It must be remembered that habits which tend to conserve health and morality are learned very early or with difficulty or not at all. Children are quick to see what methods are made up for their education as kindergarten games, and what are a vital part of daily existence, making those they love happy, clean and comfortable. They prefer the real thing if too heavy tasks are not connected with it. Our girls must attend Home Economics courses because the methods are constantly changing and improving, and the mother at home, even if she has time and the talent for teaching, may not know the best ways. In the cases where girls dislike housework, it is mainly because they rebel at old fashioned methods, too laborious and unintelligent—no one has shown them how much ingenuity and thought can vary and improve the work—and because they do not realize, young as they are, what a tremendously important thing it is for the community and for their own happiness and development to found and keep a home. When they do, the courage that is in all of them will rise to the task. As one young housekeeper said, "I love to feel the machinery *give* under my hand." No play can equal the delight that comes from feeling our powers in useful and efficient activity.

If the parents do not themselves see that the girl should be trained to care properly for the home, they are soon to feel a wholly new pressure—that of the state. Ten years ago what our daughters learned or did not learn was considered a wholly private matter, but we are

given to understand on all sides now that the community has something at stake in the character and efficiency of the young people that we send out.

Dean Arnold of Simmons College in her address as President of the National Home Economics Association at its meeting in Cornell University last summer dwelt on this point. She said, "We must think of education as a preparation for life. . . . . it must make it possible for the youth to fulfill their responsibility in the home. We shall yet say to the girl, 'You cannot leave school until you have received the elements of the training that enables you to undertake homemaking and homekeeping, to secure the essentials of the American home. . . . . We shall not be satisfied if your children are sewed into their clothes to stay there from November till June; we shall not be satisfied if your back door spreads disease through the neighborhood; we shall not be satisfied if your children die in infancy because you have not learned how to feed and house them.'" And she might have added unless women reach a satisfaction in their work and their development and help the men connected with them to do the same.

DISTRIBUTION OF HOUSEHOLD LABOR[1]

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Every one recognizes that agriculture and Home Economics are closely related, the one producing and the other utilizing the raw materials of food, clothing, and shelter. How great a part these two play in the life of the race is realized when we consider primitive or frontier conditions, where the two pursuits make up the sum of the activities of the family. The home is undoubtedly the older of the two, since the family gathered and prepared its food for untold years before it cultivated it. However, it seems certain that agriculture was first recognized as an art and systematized. It was also first taken to the laboratory for study and reduced to pedagogical form. It comes about, therefore, that in many cases as the subject of Home Economics has developed, it has been able to profit by the experience already gained in agriculture. This is too well recognized to need discussion but it seems worth while to mention that the attempt to prepare a syllabus of Home Economics was a direct result of the similar enter-

[1] Presented at the Sixth Annual Meeting of the American Home Economics Association, Ithaca, 1913.

prise which had been successfully carried on for agriculture by the Association of Agricultural Colleges and Experiment Stations. These things being so, it is natural that we should scan closely the advance which is being made in the study of agricultural problems to see whether it may not suggest a parallel advance which may be made in Home Economics.

A very promising problem for study is suggested by the report on the distribution of farm labor made by Prof. O. R. Johnson of the University of Missouri, and published as one of the research bulletins of the Missouri Agricultural Experiment Station.[2] The author of this bulletin has recognized that the labor phase of farming may be separated broadly into two parts—the labor equipment (including men and horses kept for the purpose of doing farm work), and the labor requirement (including the physical labor necessary to carry on the farm operations). As he states: "These two factors are usually intended to be equal in quantity. In other words, a farmer never intends to have more labor available than required, or vice versa. A study of labor distribution is a study of the adjustment of these factors." As he is careful to point out, this matter does not involve in any sense the problem of securing efficient labor, which matter is commonly spoken of as "the labor problem." "The adjustment of labor equipment to labor requirement of any farming system," Professor Johnson continues, "is more or less affected by special conditions. The simplest adjustment is found were the manager of the business finds it possible to employ all the labor equipment—both man and horse—for as short or as long a time as is necessary. From this simple process, the adjustment problem goes to the other extreme, where a manager must employ his help for the entire year in order to obtain help which is efficient and dependable. For the latter case the task of adjusting the two factors is most difficult. With the increasing difficulty of obtaining labor equipment, goes the increasing difficulty of adjusting the two factors under any conditions. Through long experience in farm enterprises, nearly all managers have learned the most satisfactory results under existing conditions. If conditions have caused them to adopt a system of farming which gives a fairly regular amount of labor through the year, this also lessens the difficulty of adjusting the two factors."

The investigation referred to was undertaken to secure facts of interest in discussing such topics as these, and the report presents

[2] *Missouri Sta. Research Bul. 6.*

satisfactory data regarding the number of man-hours and horse-hours, that is, the hours of labor—by a man and by a horse—required per acre for the cultivation of eight or nine common crops, assuming that the crops receive attention whenever they require it. The study of the labor requirements of different crops per month serves as a basis for fitting crops together from a standpoint of labor distribution. Such data make it possible to study the degree to which the crops conflict from the standpoint of labor, and show how much extra labor will be needed and about when it will be needed, which means that crop rotation can be planned, with a minimum of conflicting operations, to anticipate the labor requirements for the different months of the year. As a whole, farm labor was subdivided into production and maintenance or upkeep—production being subdivided into crop and other factors, and maintenance or upkeep into equipment, real estate, household, work stock, and personal, these entries being further subdivided.

Every one knows that crop cultivation requires more man-hours and horse-hours in summer than it does in winter, and the bulletin referred to shows what the mathematical relation is and the bearing of the whole matter upon the distribution of farm labor, such as upkeep and repair of buildings. It is obvious that such mathematical studies of farm labor must be beneficial, just as truly as an accurate system of accounts is better than a general idea of income and expenditures. It seems clear that a similar study of household labor would prove equally interesting and valuable.

In connection with the Department of Agriculture Nutrition Investigations consideration has been given to energy requirements for muscular work of different intensity and to energy production as related to food supply. General data have been gathered regarding various matters relating to these questions and a method has been worked out involving the use of the respiration calorimeter for studying the energy requirement and energy expenditure of men and women performing different kinds of work under varied conditions. The study of farm labor was, therefore, of double interest in connection with the Department work, and so data in hand regarding the various items making up household labor were brought together and the attempt made to distribute them according to the scheme which Professor Johnson proposed for farm labor. The three principal subdivisions—production, upkeep, and operation—were retained, and these were further subdivided, as shown in the diagram which follows.

Distribution of household labor

- Distribution of household labor
  - Production
    - Food
      - Cooking, preserving, and storing
      - Kitchen gardening
      - Dairying
      - Poultry raising
      - Beekeeping
      - Milling, etc.
    - Household equipment and furnishings
      - Spinning
      - Weaving
      - Making hangings, household linen, etc.
      - Cabinet making, wood finishing
      - Painting, papering
      - Carpet and rug making
      - Upholstering
      - Embroidering, metal working, and other art handicraft
      - Ornamental gardening
      - Soap making, candle making, etc.
    - Clothing
      - Spinning
      - Weaving
      - Garment making
      - Knitting (stockings, etc.)
      - Millinery
      - Shoemaking, etc.
  - Upkeep
    - Stocking provisions and other supplies
    - Renewing, renovating, repairing
    - Laundering
    - Dish washing
    - House cleaning (daily, weekly, and occasional)
    - Heating, lighting, ventilating
    - Disposal of waste
    - Care of lawn, sidewalk, etc.
  - Operation
    - Ordering and marketing
    - Bookkeeping and accounting
    - Planning meals
    - Serving food
    - Care of children, aged, and infirm
    - Training children
    - Hospitality and other social activities, etc.

A consideration of the data as classified suggests many things for discussion. One of the most obvious is that so many of the items described under "production" have passed entirely or are passing out of the home. For example, all that remains of milling in American homes, except among the Mexican families of the Southwest who still grind corn for tortillas, is the grinding of the breakfast coffee, or, occasionally, of a little wheat or other grain for some special kind of homemade bread or for breakfast cereal. Spinning and weaving and candle making have almost gone, as have soap making and shoemaking. The factory has almost entirely superseded the kitchen as a workshop for these activities. Rug making, carpet weaving, and basket making survive in some remote rural regions, and attempts are made to foster such home industries as a means of adding to the family income, but, disregarding these exceptions, such household arts are practiced only for teaching purposes or as a pastime. Dairying and laundering, too, are passing from the home, as is a great deal of the heavy baking; and each decade sees a greater percentage of canning and other methods of preserving foodstuffs left to the factory. Sewing and garment making (for family use, not for commercial purposes) remain home industries to a much greater extent, but here, too, a change can be noted. Men's garments, except underwear and linen, are almost never made at home for the men of the family, and women's and children's garments are purchased outside the home in a constantly increasing proportion.

Will the time come when there will be left in the home only a certain immovable minimum? If so, what will be its content? Will the lighter tasks of cleaning and caring for the home, of preparing food, and of serving it remain, together with the laundering of light articles, especially fine and delicate fabrics, and a certain amount of garment making and repairing, which require special skill? Will the upbringing of children go out of the home as their formal education has so largely gone? If so, what will be the effect upon the child and upon the family life? We know that in many families of wealth the responsibility of training children is now often turned over to governesses and tutors. But, despite the success of some conspicuous examples of this method which might be noted, most of us would be loath to believe that there is any general substitute for the home, for discipline and for the development of the finer instincts and sensibilities. What is to occupy the housewife's attention when the last task has left the home, if such a time ever comes? These do

not seem idle speculations when we recall that not only industries have gone but that we entrust the care of our sick to the trained nurse, and very often in the hospital, instead of in the home, because we realize that the chances of recovery are thereby increased.

If we consider how we may contribute to the solution of home labor problems as well as speculate about them, many suggestions occur. First of all, a more systematic and careful survey of the field should be made that we may know just how much information we have on hand and its character, and that we may the better understand the relation of home problems to other activities.

Specific questions for study by laboratory methods are numerous. For instance, in order to carry out the study of household labor logically and adequately, a large number of time studies should be made to ascertain how much time the housewife spends in the average home on her different household tasks, as well as their daily and seasonal variation, and the possibilities of more logical adjustment. Experimental studies should also be made with a view to devising better methods where such are needed. Does it, in fact, take three-quarters of an hour to sweep and dust one room fourteen by fifteen feet, to quote the figures of a recent writer[3] on "Household Tasks and the Servant Question"? What is the relation of the finish and furnishings to the time required? Can we, by the study of our household mechanics, reduce the hours of labor and increase the hours available for rest and recreation, without lowering household standards?

To mention others of the many lines of research which suggest themselves when we consider the factors of labor: How many hours of work does it take to prepare three simple meals per day for a family of average size? Can the amount of time be reduced and how? What is the relation of the character of the meals to the time and labor involved? Is it possible to lessen the "woman-hours of labor" in a given home by purchasing more foods ready-made, and what is the effect of this upon the family comfort as well as the family income?

Together with the collection of such data by laboratory methods should go studies of the actual energy expended in carrying on the different household tasks by different methods, and the relation of body position and household equipment to such labor expenditure. Perhaps some other means may be forthcoming for making such

[3] *Atlantic Mo.*, III, 1913, no. 4, pp. 496–506.

studies, but at present the most promising, if not the only method for studying them quantitatively, involves the use of the respiration calorimeter. With this instrument it is possible to measure the energy expended for any kind of household labor, which can be reproduced in the calorimeter chamber, and the effect of a great variety of conditions upon the production of physical labor and the comparison of energy expenditure with energy supplied by food. When these things have been done, we will be in a better position to discuss more intelligently than is otherwise possible such matters as efficiency and the economy of labor and to make comparisons, and we will have data for speaking about man-power and woman-power with as much accuracy as we now can about horsepower. Will not numerical data make for clear thinking in discussing home tasks, as they have for discussing so many problems of the mechanics of manufacturing industries? If we had such data on hand, could we not discuss the question of a proper day's work in the home and the matter of overwork? Could we not determine the limits of safety in household work, and would we not be in a better position than we are at present to discuss the relation of physical labor to physical and mental breakdown?

If we can fix upon values for some of the different types of household labor by taking into account the average sum per hour which must be paid to women outside the home for commercial baking, laundering, caring for children, nursing, teaching, etc.; if we know the amount of time spent on such labor in the home and also the physical energy involved, to help us in our comparisons, we should be able to estimate more accurately than now the money value of the contribution made to the family budget by the housekeeper's labors. Its value would sometimes be startling and would always be interesting.

It is much easier to speculate than to accomplish, but is it not possible for this association to consider the matter through a committee or otherwise? A beginning might be made by working on an outline for the distribution of household labor, to see how the one here suggested should be modified and improved, and we might also undertake systematic time studies of different household tasks under varied conditions. As a contribution to the subject, we hope that we may in the Department of Agriculture laboratories use our respiration calorimeter to measure the actual energy expended in the performance of household tasks of different sorts and under different conditions.

JAMES NASMYTH AND HIS ECONOMICAL DEVICE FOR SLOW COOKING[1]

An article in a recent number of *Chambers Journal* attributes the invention of casserole cooking to James Nasmyth, the well-known Scotch inventor. This is hardly accurate, since the casserole was known long before the beginning of the nineteenth century, the time when Nasmyth was born. He did, however, originate a cooking device very similar in principle to the Aladdin oven. The cooking pan was insulated from the outer covering by an air space and was heated by a small lamp. Some data about this and about marketing and housekeeping in old Edinburgh in 1816, or thereabouts, are quoted from Nasmyth's autobiography, which was edited by his friend Samuel Smiles of *Self Help* and *Character* fame, and first published some thirty or more years ago. As his book shows, Nasmyth must have always had an interest in the daily affairs of the home. His memories of such things in his early childhood are full of charm as will be seen by the following extracts.

"One of my greatest enjoyments when a child was in going out with the servants to the Calton and waiting while the 'claes' bleached in the sun on the grassy slopes of the hill. The air was bright and fresh and pure. The lasses regarded these occasions as a sort of holiday. One or two of the children usually accompanied them. They sat together, and the servants told us their auldwarld stories; common enough in those days, but which have now, in a measure, been forgotten. 'Steam' and 'progress' have made the world much less youthful and joyous than it was then.

"The women brought their work and their needles with them, and when they had told their stories the children ran about the hill, making bunches of the wild flowers. They ran after the butterflies and the bumblebees, and made acquaintance in a small way with the beauties of nature. Then the servants opened their baskets of provisions, and we had a delightful picnic. . . .

"In the days I refer to there was always a most cheerful and intimate intercourse kept up between the children and the servants. They were members of the same family, and were treated as such. The servants were for the most part country-bred daughters of farm servants or small farmers. They were fairly educated at their parish schools;

[1] "James Nasmyth: An Autobiography." Edited by S. Smiles. New York, 1884, n. ed., pp. 74, 75, 78, 79, 80, 145, 146, fig. 1.

they could read and write, and had an abundant store of old recollections. Many a pleasant crack we had with them as to their native places, their families, and all that was connected with them. They became lastingly attached to their masters and mistresses, as well as to the children. All this led to true attachment; and when they left us, for the most part to be married, we continued to keep up a correspondence with them which lasted for many years."

Another source of enjoyment in his early days, was to accompany his mother to the market. "My mother," he writes, "though generous in her hospitality, was necessarily thrifty and economical in the management of her household. There were no less than fourteen persons in the house to be fed, and this required a good deal of marketing. At the time I refer to [about 1816] it was the practice of every lady who took pride in managing economically the home department of her husband's affairs to go to market in person. The principal markets in Edinburgh were then situated in the valley between the Old and New Towns, in what used to be called the Nor' Loch.

"Dealers in fish and vegetables had their stalls there. The market for butcher meat was near at hand, and all were in their several locations. It was a very lively and bustling sight to see the marketing going on. When a lady was observed approaching, likely to be a customer, she was at once surrounded by the 'caddies.' They were a set of sturdy, hard-working women, each with a creel on her back. Their competition for the employer sometimes took a rather energetic form. The rival candidates pointed to her with violent exclamations: 'She's my ledie! she's my ledie!' ejaculated one and all. To dispel the disorder a selection of one of the caddies would be made, and then all was quiet again until another customer appeared.

"There was a regular order in which the purchases were deposited in the creel. First, there came the fish which were carefully deposited in the lowest part with a clean deal board over them. The fish-wives were a most sturdy and independent class, both in manners and language. When at home, at Newhaven, or Fisherrow, they made and mended their husbands' nets, put their fishing tackle to rights, and when the fishing boats came in they took the fish to market at Edinburgh. To see the groups of these hard-working women, trudging along with their heavy creels on their backs, clothed in their remarkable costume, with their striped petticoats, kilted up and showing their sturdy legs, was indeed a remarkable sight. They were cheerful and good humored, but very outspoken. Their skins were clear and ruddy,

and many of the young fish-wives were handsome and pretty. They were, in fact, the incarnation of health.

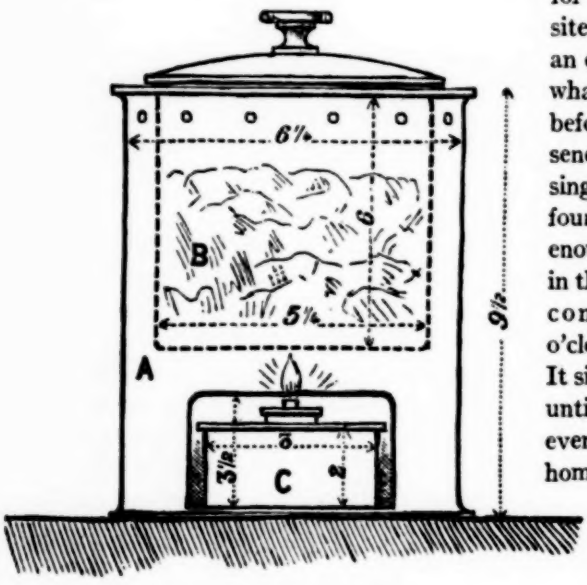
"In dealing with them at the fish market there was a good deal of higgling. They often asked two or three times more than the fish were worth—at least, according to the then market price. After a stormy night, during which the husbands and sons had toiled to catch the fish, on the usual question being asked, 'Weel, Janet, hoo's haddies the day?' 'Haddies, mem? Ou, haddies is men's lives the day!' which was often true, as haddocks were often caught at the risk of their husbands' lives. After the usual amount of higgling, the haddies were brought down to their proper market price—sometimes a penny for a good haddock, or, when herrings were rife, a dozen herrings for twopence, crabs for a penny, and lobsters for threepence. For there were no railways then to convey the fish to England, and thus equalize the price for all classes of the community. . . .

"When my mother had got her fish laid at the bottom of the creel she next went to the flesher for her butcher meat. There was no higgling here, for the meat was sold at the ordinary market price. Then came the poultry stratum; then the vegetables, or fruits in their season; and, finally, there was 'the floore'—a bunch of flowers—not a costly bouquet, but a large assortment of wallflowers, daffodils (with their early spring fragrance), polyanthuses, lilacs, gillyflowers, and the glorious, old-fashioned cabbage rose, as well as the even more gloriously fragrant moss rose. The caddy's creel was then topped up, and the marketing was completed. The lady was then followed home, the contents were placed in the larder, and the flowers distributed all over the house."

And now we come to his cooking device which must have been invented about 1829 when he went up to London from Edinburgh to enter Henry Maudsley's works in London as an assistant, the Maudsley shops being the most famous machine manufactory in England at the time. "I was resolved," he writes, "that my wages alone should maintain me in food and lodging. I therefore directed my attention to economical living. I found that a moderate dinner at an eating house would cost more than I could afford to spend. In order to keep within my weekly income I bought the raw materials and cooked them in my own way and to my own taste. I set to and made a drawing of a very simple, compact, and handy cooking apparatus. I took the drawing to a tinsmith near at hand, and in two days I had it in full operation. The apparatus cost ten shillings, including the lamp. As it con-

tributed in no small degree to enable me to carry out my resolution, and as it may serve as a lesson to others who have an earnest desire to live economically, I think it may be useful to give a drawing and a description of my cooking stove.

"The cooking or meat pan rested on the upper rim of the external cylindrical case, and was easily removable, in order to be placed handy for service. The requisite heat was supplied by an oil lamp [presumably whale oil, as this was long before the day of kerosene] with three small single wicks, although I found that one wick was enough. I put the meat in the pot, with the other comestibles, at nine o'clock in the morning. It simmered away all day until half-past six in the evening, when I came home with a healthy appetite to enjoy my dinner. I well remember the first day that I set the apparatus to work. I run to my lodging, at about 4 p.m., to see how it was going on. When I lifted the cover it was simmering beautifully, and such a savory gusto came forth that I was almost tempted to fall to and discuss the contents. But the time had not yet come, and I run back to my work.



Nasmyth's cooking apparatus.
A, cylindrical outer case; *B*, the meat-pan, movable; *C*, oil-lamp.

"The meat I generally cooked in it was leg of beef, with sliced potato, bits of onion chopped down, and a modicum of white pepper and salt, with just enough of water to cover 'the elements.' When stewed slowly the meat became very tender, and the whole yielded a capital dish such as a very Soyer might envy. It was partaken of with a zest that, no doubt, was a very important element in its savoriness. The whole cost of this capital dinner was about 4½d. I sometimes varied

the meat with rice boiled with a few rasins and a pennyworth of milk. My breakfast and tea, with bread, cost me about fourpence each. My lodgings cost 3s. 6d. a week. A little multiplication will satisfy any one how it was that I contrived to live economically and comfortably on my ten shillings a week. In the following year my wages were raised to fifteen shillings a week, and then I begun to take butter to my bread."

In the autobiography, Nasmyth adds a note about his early invention as follows: "I have this handy apparatus by me still [1884]; and, to prove its possession of its full, original efficiency, I recently set it in action after its rest of fifty years, and found that it yielded results quite equal to my grateful remembrance of its past services."

A COMPARISON OF METHODS OF COOKING[1]

CORNELIA FRENCH

The fireless cooker is a very practical and scientific adaptation of the recaloration of retained heat through good insulation. In the cooking of foods in water it is impossible, under ordinary atmospheric pressure, to raise the temperature above 212° F. no matter how much fuel is consumed under the vessel, for the reason that at 212° water becomes steam. In its simplest form the fireless cooker is a well-made box, usually of wood, packed well with insulating material (*i.e.* non-conducting) in which there are wells that hold cooking utensils. Into these wells the utensils holding the boiling food may be placed and the food will continue to cook. Since the first attempt to make use of this principle the cooker has been improved until now it is a contrivance which roasts, bakes, boils and freezes—in fact it is a living example of the new science—Efficiency.

The common types of the modern fireless cooker have cases of wood, treated to stand excessive heat—this being very practical, as wood is a natural non-conductor of heat; the insulating material is of mineral wool; over the insulating material is the lining of seamless aluminum. There are usually one, two or three wells into which the cooking vessels fit, also the radiators made of soapstone which are used for baking and roasting. Some models have a ventilating valve in the top of the cover which allows the excess of steam to escape. There is also a combination of fireless cooker and gas range which may be used as either

[1] Extracts from thesis, 1913. Senior Normal Work, School of Household Science and Arts, Pratt Institute.

or both. It is built throughout of steel lined with monel metal. The main body outside is constructed of steel plate; between the lining of monel metal and the steel plate is a lining of asbestos while on either side of this the space is filled with mineral wool, a very good non-conductor of heat. The hood which covers one or more of the top burners and hangs from a balanced crane is lined with the same material.

The manufacturers of the fireless cookers claim that by using them the cost of fuel can be reduced from five-eighths to nine-tenths; that pots are not difficult to wash; that food is better cooked; that time and labor are saved; and that hot kitchens are eliminated.

To prove the truth or fallacy of these claims and to judge these appliances, in comparison with the gas range, as to economy of time and labor, and as to the palatability of products, the same articles of food were cooked in the gas range, the fireless cooker and the combination gas range and fireless cooker with the following results:

Breakfast

Stewed prunes — Cream of wheat
Bacon — Coffee — Hot biscuit

Cooked with gas range

ARTICLE	TIME	GAS USED	LABOR	RESULT
		cu. ft.		
Prunes	1 hr.	24	All required watching	Products excellent in appearance and palatability.
Cereal	1¼ hr.	30		
Bacon	15 min.	6		
Coffee	18 min.	7		
Biscuit	25 min.	20		

Total: 87 cubic feet gas used in preparing meal. Cost of fuel at the rate of $0.80 per 1000 cubic feet = $0.0696.

Cooked with fireless cooker

ARTICLE	TIME OVER FLAME	TIME IN FIRELESS	GAS USED	LABOR	RESULT
			cu. ft.		
Prunes	10 min.	2 hrs.	4	Less than cooking meal by gas.	Better in taste and appearance than same cooked by gas.
Cereal	10 min.	4 hrs.	4		
Bacon (by gas)	15 min.		6		
Coffee	18 min.		7		
Biscuit	radiators 10 min.	35 min.	16		Very well baked.

Total: 37 cubic feet used in preparing meal (24 cubic feet used in preparation for fireless cooker; 13 cubic feet used for coffee and bacon). Cost of fuel = $0.0296. $0.0696 − $0.0296 = $0.04 saved by using fireless cooker. 87 cubic feet − 37 cubic feet = 40 cubic feet of gas saved. 40 is about four-ninths of 87; therefore amount of gas saved was about five-ninths.

Cooked with combination gas range and fireless cooker

ARTICLE	TIME OVER FLAME	TIME IN FIRELESS	GAS USED	LABOR	RESULT
			cu. ft.		
Prunes	10 min.	2 hrs.	3	Required no attention after gas was turned off.	Equal to product from fireless cooker.
Cereal	10 min.	4 hrs.	3		
Bacon	15 min.		4.5		
Coffee	18 min.		4.8		
Biscuit	10 min. 2 burners	35 min.	8.		Equal to product from fireless cooker.

Total: 23.3 cubic feet used. Cost of fuel = $0.01864. $0.0696 − $0.01864 = $0.05096 saved on cooking by gas, $0.0296 − $0.01864 = $0.01096 saved on using fireless. 87 cubic feet − 23.3 = 63.7 cubic feet gas less than range. 37 cubic feet − 23.3 = 13.7 cubic feet gas less than fireless. 23.3 is 23.3/87 or about one-fourth of 87, therefore about three-fourths of the fuel was saved by using the combination instead of a gas range.

A second test was made in which a luncheon consisting of beef loaf, potatoes, muffins, and apples was prepared in the three ways with the same degree of accuracy. The final results are summarized as follows:

Saving over gas range cooking

COMPARISON BY MEALS	FIRELESS COOKER	COMBINATION COOKER
Amount saved on two meals	$0.1296	$0.1589
Average per meal	.0648	.0795
Amount saved for three meals (one day)	.1944	.2385

Judging by these results it would take 93 days for an $18 fireless cooker to pay for itself, and 231 days for a $55 combination cooker to pay for itself.

Cereals have been called the most abused food for the reason that they are seldom cooked long enough. Used primarily as breakfast food they receive one-half to two-thirds hour's cooking. The fireless cooker and combination cooker are particularly adapted to the cooking of cereals for they may, in this way, receive four or five hours' cooking with less expenditure of gas, labor and care than are required for one-half hour's cooking over the flame. Oatmeal and rice were cooked in the three ways with the following results: Cost of fuel: gas range, $0.04; fireless cooker, $0.0076; combination cooker, $0.008.

Products from the fireless cooker and combination cooker were equal in palatability, and, in the writer's opinion, both were better than the product from the gas stove. Labor and expense were least when the combination cooker was used. Bread was also baked in the three ways with a similar saving of gas. There was no apparent difference in the loaves of bread baked in the three ways. They were of the same texture, were moist and very palatable.

Judging by this experimental work the claims of the fireless cooker manufacturers would seem in general to be true. The cost of fuel was reduced five-eights or more. Pots were not as difficult to wash, as food did not stick. In every case, except boiling potatoes, the food was as well cooked as when done by gas. In the case of cereals and prunes the product from the cooker was more desirable than that cooked by gas. Time and labor were saved (when radiators have to be heated and transferred to the cooker, the labor is about the same) and heat in the room was greatly reduced.

A homemade fireless cooker which is both useful and practical may be made by anyone, with very little expense. A successful one was made by taking a well-made box 15 inches square and 9 inches high, and having a cover which slid into a groove. The bottom was then packed 2 inches deep with newspaper, crumpled up and made firm by pressing with weights, on top of that, in the middle of the box, was placed a regular aluminum fireless cooker utensil and around it was made a cylinder of cardboard. The utensil was then removed, leaving a well of cardboard. A piece of cardboard was placed at the base of the well to form a bottom, then more newspaper was packed securely around the well, pressed down with weights and left for several days; then paper was again packed in until the box could hold no more. On top of the paper and around the well was placed another piece of cardboard, which really formed a box around the well and the paper. The utensil then slipped easily into the well and was partially insu-

lated on three sides by from 2 to 3 inches of well packed newspaper. To cover the top, a cushion was made of lawn and into it was stuffed fold after fold of cheese cloth. When the cushion and the wooden cover were on, the insulation was excellent. Cereals (hominy and oatmeal) were cooked by gas, each for ten minutes, then transferred to the cooker and left about four hours. They were then well cooked —in fact, equally as well as in the commercial fireless cooker. In each case 5.5 cubic feet of gas was burned, the cost for 5.5 cubic feet being $0.0044. If the homemade cooker were used only for cooking cereals and boiled meats it would still be worth while, as the cost and labor of building a cooker are comparatively small.

Cost of the homemade fireless cooker

Box	given by any grocer
Cardboard	$0.05
Utensil (aluminum)	1.00
Cheese cloth	0.15
Lawn	0.08
	$1.28

This cost might easily be reduced one-half by using an enameled or granite-ware utensil, instead of one made of aluminum.

A STUDY OF TEXTILES AS A PART OF THE RELATED SUBJECT MATTER IN COURSES OF SEWING

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The subject of textiles in the elementary school has been so completely adjusted in relation to the handwork and sewing courses that it now covers the study of both clothing and household fabrics from the view point of history, geography, design, and, in the higher grades, hygiene also. Handwork is the medium in the lower grades, calling into action the larger muscles; while sewing is the medium after the finer muscular development and control are completed. One may be thought of as paving the way for the other, and the intellectual development that accompanies the one is simply continued by the other. The children in the lower grades, while making simple, often primitive articles, are given a logical sense of the textile arts as race activities, and live again, to some extent, through the evolution of these activi-

ties, which has brought the race to its present culture. Parallel with this historic side, something of the geography of the country is learned in the study of the sources of the various materials handled. An appreciation of form and color, as well as the relation of design to materials, tools, and methods of work are sought for in the teaching of advanced elementary work.

Since all of these aspects can not be dealt with in a short time, this limited paper will be confined to a side of the textile arts that is perhaps least considered, and one that is related more especially to sewing, namely, the economic side of textiles. As one of the modern educators has said, "Education for the people must include all of what life calls for as well as the pure intellectual process aimed at, the complete moral, physical and intellectual development." At present, a girl who has received a fairly thorough training in sewing, often knows little about efficient buying. This necessary knowledge when gained through experience means loss of time and money during the learning, while the textile course can furnish it easily and directly. And a girl who is prepared to consider intelligently the economic side of textiles, as well as their history and design, is better prepared to meet the problems of her individual life.

This question of what to buy and how to buy it, falls into the textile subject matter related to sewing taught in the upper grades, or in the high school, where the aim is the making of clothing. The underwear class offers, perhaps, the first opportunity for its presentation. Here the various staple materials that can be used in the construction of muslin underwear should be considered, and the characteristics of each discussed. This discussion if it is to be of any lasting benefit must be illustrated with full width samples of the materials, so that the children can handle them and learn to associate the name, appearance, and feel of each. Many of the class will no doubt have heard the terms nainsook, cambric, and long cloth at home, but most of them will realize for the first time the softness of one, the glazed surface of another.

A comparison of the costs of the different materials is, of course, important. Each student can see for herself, if the prices are marked on the samples, that nainsook costs more per yard than the same grade of cambric, but with no past experience for a guide, she cannot possibly look ahead far enough to see that the difference in costs is even greater than the numerical indication. Therefore, some idea of the wearing qualities of each fabric should be given and then the final cost of each estimated.

A talk of this same kind related to the textiles used in the making of outer garments will have to include color, dealt with from the economic side, namely the comparative permanence of varous dyes and colors both in regard to fading and also to "running" when laundered. Certain colors are in a class known as "light fugitives." The student should know which these are so that she may discriminate when buying. Experimental tests can supplement this work. The difference in wear between printed and yarn-dyed fabrics is practical information worth knowing, and in giving this, some methods of textile manufacture will incidentally be introduced. Simple tests for detecting adulteration in fabrics should be demonstrated. This will also be the means of introducing a little chemistry or of applying, if in a high school, what is given in the regular chemistry course.

If discussions of this kind could precede the making of each garment, and the advice that Comenius gave, "Let the things that have to be done be learned by doing them," were then applied by the student in the purchase of material for this garment, the subject of textiles in relation to the sewing course would be far more vital.

There is still another side to the economics of textiles in relation to sewing. This is the wardrobe as a whole. The school girl has very little idea of what kind of clothing is suitable and practical, or does she know how to plan an efficient wardrobe that will still contain the minimum number of garments. Girls that are old enough to be given talks on this subject are just about at that age when they emulate some leader among them. They imitate not only her clothes, but even her walk, and her way of talking does not escape them. If this leader comes from a home where her clothes are sensibly planned, very good; this imitation then does no harm; but if she is a leader who wears large frillings, lace jabots, beribboned underwear, and silk petticoats, the effect on the others is disastrous. No amount of reasoning or explaining in their own homes will convince these girls that such clothing is not only poor economy but poor taste as well. Right here lectures from the textile instructor on the harmonious relation that should exist between fabrics and their place in a wardrobe, might work wonders. As Ida Tarbell has so aptly put it in her recent volume "The Business of Being a Woman," "The folly of woman's dress lies not in her instinct to make herself beautiful, it lies in her ignorance of the principles of beauty, of the intimate and essential connection between utility and beauty. It lies in the pitiful assumption that she can be the thing she envies if she looks like that thing."

Then too large a number of each kind of garment is an economic drain and needs attention. This will apply generally to underwear, and will be directed mainly at unnecessary buying, and at buying new garments before the old are completely worn out, which means eventually a quantity of half-worn articles, too good to throw away and yet rather shabby after all.

Many of these remarks may seem rather remote from the thought of textiles as it is at present held; but the need of education along the lines suggested by them will not be doubted, if the clothes of the average school girl are analyzed, especially those of the high school girl. Of course, some of the ideas might be assembled into special lectures, but the textile instructor has the opportunity of covering the ground from the viewpoint of economy, utility, and beauty, and can do it in an intimate yet impersonal way.

This is a plea for the extension of the study of textiles until it includes the economic side as well as the historic and design sides in its relation to sewing.

REPORT ON HOUSING CONDITIONS AND DIET OF HIGH SCHOOL PUPILS AT VEVAY, INDIANA

Under the auspices of the Indiana State Board of Health, a survey of the living conditions of pupils who "room" in town during the school term was made in April, 1913, by Dr. Ada E. Schweitzer, Assistant Bacteriologist of the Board.

It is a common custom for pupils from the country to "room" and "board themselves" when they attend the high school in some town near their home. The report which is given below essentially as it appeared in a publication of the Indiana State Board of Health[1] is therefore of general interest and the more valuable since studies of such matters are much needed, the whole question being one deserving of serious consideration.

It seems to be the belief of parents either that supervision is a part of the landlady's duty or that the young people are able to "take care of themselves." Whatever may have been the case in former times, the justifiable importance now generally attached to social considerations makes one realize that for these young people who are leaving home for the first time some better plan is needed for safe-

[1] *Mo. Bul. Indiana State Bd. Health*, 16, 1913, no. 6, p. 217.

guarding them in their social relations, as well as in their health, comfort, housing, and diet. There is a growing appreciation in colleges and universities of the importance of housing and feeding problems. It is realized that dormitories, college commons, boarding houses, and eating clubs cannot be expected to run themselves without adequate standards and without general supervision. The matter is equally important in boarding schools and village and town schools attended by pupils who do not live at home. School lunch work, valuable as it is, is only a step in the right direction. Much more extended work is needed before we can understand existing conditions and formulate standards and practice which will lead to the much needed better things. According to Dr. Schweitzer:

Vevay, Switzerland County, Indiana, is an "old" town on the Ohio River, with old houses, old families, etc. The town has electric lights and water supply which are connected mostly with the better homes, but no municipal sewerage system exists. Private sewers are regulated by ordinance. Garbage disposal is not uniform nor as a rule sanitary. The population is 1256.

The school buildings are substantial but inadequate. They will be improved and new buildings erected during the summer. Officials, school board and teachers are progressive and efficient. The school has a strong chorus, orchestra, athletic associations, and other organizations. The Parent-Teacher's Club of the town is well organized and devoted to the best interests of the young people.

Four rooming houses were examined. One had no foundation, was shabby and badly warped, and the second story was low. One house had electric lights. House no. 1 represents the average. The foundation wall is low, the basement dry, the house a large square frame building, fronting even with the street. The rooms are high and well lighted, the second floor reached by broad front stairs and by narrow, steep back stairs. The latter are used by roomers. Four rooms on the second floor are rented to students, a front room and a back room to each group. The front rooms are large, high and well lighted, having two large windows facing the street. The back rooms are smaller, have sloping roof, and are well lighted. The night light is that of a large coal oil lamp and is a good light. Two south rooms are occupied by four girls. The front room is divided by curtains, the light part being used for a living and study room, the curtained recess for a bed-room. Two beds placed side by side for four girls are too close for health, even with the curtains drawn back at night and the windows wide open. A two-plate laundry stove is used for heating, sometimes for cooking. Cooking is usually done on a gasoline stove. There is sufficient plain furniture and the rooms are neatly kept. There are no decorations. Lace curtains filter the dust from the street air. There is no bath room, but an out-door privy. This group of girls have a regular program for sleep, study, meals, and recreation. They bring provisions from home and cook regularly, but the meals are not always well balanced as to food value. Perishable foods are kept in the landlady's refrigerator. Garbage is thrown on the ash heap. The general health of the girls appears to be good. They are known as "quiet home bodies." The girls are allowed to entertain young men in the

parlor downstairs. The north rooms are similar to the south, with better furnishings, but not so well kept. The windows are never open, and the air is heavy and odorous. The tenant is a girl who sleeps late, cooks irregularly, often going without breakfast. She eats cheese, crackers, cakes, etc., rather than prepare meals and has chronic indigestion. She is very irregular in school attendance, and "slips through" grades. Her habits are said to be due to laxness in management at home. She needs sympathetic supervision and firm discipline. These two groups show the extremes. Several instances were found where little cooking was done. One energetic girl cooked for three brothers, but did not understand food values. Garbage was usually thrown on the ash heap or out to chickens. In a few cases it was burned. Some rooms were well kept, others "cleaned up by spells." As a rule the girls entertained their young men friends in the family parlor. However, a few of the irresponsible sort were inclined to take advantage of the lack of direct supervision and to disregard convention if not discretion. Elder girls refused to "tell" on younger sisters and landladies did not wish to assume the task of exercising a discipline which in many cases had been unsuccessful in the home. Some lacked tact and others had no difficulty in enforcing such rules as they chose to make. The parents seemed to feel that, when they came to town in the fall, and from the rooms available selected the ones best adapted to the needs of their children, and then furnished them at frequent intervals with the best fresh food the country afforded, they were doing all that could be expected of them.

A meeting of all persons interested was called by the Parent-Teachers' Club to disseminate information and to discuss plans for the improvement of these conditions. There were present, parents, teachers, preachers, landladies, members of the school board, and high school pupils. Discussion was given from the viewpoint of each. For the improvement of the situation two plans were presented, one being the establishment of a dormitory with a matron in charge in a large dwelling house nearby. The young folk were to rent and furnish their rooms and to pay for the cost of service. Each was to be credited at market price with whatever food was brought from home. A few might assist with the work. Study rooms and recreation rooms were to be provided. The success of this plan seemed to hinge on the choice of a matron.

A second plan was the establishment of a cottage system in connection with the Vocational and Domestic Science work at the school. Each cottage was to house six and to be in charge of a matron and a department teacher at the school. Each group was to work out successively and in a practical way a series of problems to be proposed in the regular course of study. This plan was favorably received, the only handicap being a lack of funds. So far as had been ascertained no other high school in the state has even considered in a practical way the housing conditions of high school pupils. The talk by your representative was requested for the purpose of arousing general interest in the subject and of creating public sentiment favorable to some plan in the interest of the entire community. Discussion and comment indicated that the desired purpose was accomplished.

Investigations similar to those in Indiana are being made in Wisconsin, as reported by the *Wisconsin Journal of Education*:[2]

[2] *Wisconsin Jour. Ed.* 46, 1914, no. 1, p. 4.

The Wisconsin Teachers' Agency at its last meeting appointed a committee to study the question of providing proper home facilities for non-resident pupils in high schools. This is a movement in the right direction. There is great need in many communities for better home facilities for high school boys and girls. In certain places we have visited, young boys and girls are not properly safe-guarded in their physical, social, or moral life in the cities or villages in which they are attending school. They find their home in a hit or miss way; and then they are not looked after properly by people who have a personal interest in them, or who are officially appointed to keep track of them.

We were looking over the high school in a small city last winter, and we learned that a third or so of the pupils in the school had come from a distance, and most of them were staying in the city from Monday morning until Friday night. We heard some of these pupils talk about their experiences in the city, and one or two of them gave the impression that they had no home life. Their living quarters were not suitable for young people attending school; and they could go and come as they chose, and no one would be any the wiser for it. Conditions were probably particularly unfavorable in this small city; but they are not likely to be wholly satisfactory in any place unless special effort is made to find agreeable homes in which the boys and girls will be looked after in a personal way by people who are interested in them.

If the committee appointed to study this matter can suggest a feasible plan for providing real home life for non-resident high-school pupils it will mark a big advance in the high school work in the smaller communities in this state, and even in some of the larger ones where the high schools have many pupils from abroad.

SCHOOL CREDIT FOR HOME WORK IN HOME ECONOMICS

GRACE SCHERMERHORN

Director in Home Economics, Iowa State College

This plan for home credit was first worked out by the Home Economics teachers of the Iowa State College, with help and suggestions from the superintendent of the Ames public schools. It was then discussed in each Parent-Teachers Association in the town. The town people were much interested. They criticized freely, gave many good suggestions, and promised their most hearty coöperation.

After much discussion the final plan was made and put into practice. This is the first year the system has been used, and so we cannot say that it *has* worked well, but we can say most enthusiastically that it *is* working well. The college practice teaching in Home Economics is done in the Ames city schools, under the direction of the department of Education of the College.

The purpose of giving school credit for home work is to bring the school and home into closer relation. We hope it may prove an incentive for the girl to do, at home, some of the things that she has learned at school. In this way she may carry into the home some new ways of working, and there will be an exchange of ideas between mother and daughter, as to the hows and whys of so doing, that will result beneficially to both. As the girl carries these ideas and discoveries back into the school we shall be able to know better the needs of her home and social life, and hence to so plan our work that it may "carry over" into her out-of-school life.

To be successful this home-school work requires the best interest and coöperation of the girl's family. This interest and coöperation we ask for in order that the school may most closely meet the needs of the child.

The plan at present provides for the following credits:

A total of 2 credits may be earned by home work in Home Economics, the value of 1 credit being 300 points. These credits will apply on high school graduation. Fractional credit will be given for part work.

Enough work must be done to make 1 credit in order to have the work apply on high school graduation.

The work may extend throughout the student's four year high school course.

General work should be reported each month, records kept each week.

A grade of 75, or "fair," is necessary for credit.

Cookery

The total for cookery is ⅔ credit—200 points. In each case the family recipe must be used (enough to serve six) and whenever possible a sample of the product brought to school for examination. The recipes, stating method and giving itemized cost, together with a statement from the guardian or parent saying the entire work was done by the girl, must accompany each dish brought in. Blanks will be provided for this.

Grading is to be made on the following: (a) appearance of the finished product, (b) taste, and (c) texture. In grading bread or cake the score card given to the class will be used, and product brought to school and marked by the teacher.

To girls who are taking, or who have completed, first year cookery, ⅓ credit—100 points—will be given for 15 of the following dishes:

Some fresh vegetable cooked and served in a white sauce
Potatoes in some form
Tapioca

Rice
Macaroni
Muffins
*Baking powder biscuit
*Plain cake, with or without frosting
*Drop cookies
*Rolled cookies
*Pastry
*Gelatine with soft custard
Cottage cheese
Scalloped dish
Custard, or some kind of custard pudding (bread, rice, tapioca)
Steamed brown bread
*Prune whip, Marguerites } One of these required, the other chosen
Fondant candies
Salad with cooked or French dressing
*Sandwiches—three kinds of filling
*Bread
*Baked beans

The ten starred dishes are required, and each receives 7 points credit; the other five may be chosen, and each receives 6 points credit.

To girls who are taking, or have completed, second year cookery, ½ credit—100 points—will be given for 15 of the following dishes:

*Canned fruit, Preserves } One of these required, the other chosen.
Pickles
*Jelly
*Bread
*Parker House rolls
*Sponge or angel cake
Salad with mayonnaise served with some made salad wafer
*Cooking 2 fresh vegetables
*Roast meat
Broiled steak
Breaded chop
Meat stew with dumplings
*Meat substitutes—one dish required, one dish chosen.
Creamed soups
Two left-over dishes. Tell what you would serve with this dish to make a good luncheon or supper dish for your family
Frozen dessert
*Light dessert
*Heavy dessert
Boiled dinner

The ten starred dishes are required, and each receives 7 points credit; the other five may be chosen, and each receives 6 points credit.

General

The total for general housework is $\frac{2}{3}$ credits—200 points; work carried on for 8 months receives $\frac{1}{3}$ credit—100 points; work carried on for 16 months receives $\frac{2}{3}$ credit—200 points. The general work consists of the following:

1. Making girl's own bed each day, 3 points for 4 weeks.
2. Daily and weekly care of one bedroom, preferably girl's own room, $4\frac{1}{2}$ points for 4 weeks.
3. Helping with general housework one-half hour each day (sweeping, dusting, ironing, washing dishes, washing windows, etc.), 3 points for 4 weeks.
4. Helping with general housework one hour on Saturdays, 2 points for 4 weeks.

The total credits for general work are $12\frac{1}{2}$ points for 1 month. One task must be done for four weeks in order to get any credit.

Sewing.

The total for sewing is $\frac{2}{3}$ credit—200 points: any work may be chosen and credit will be given up to 200 points. To girls who are taking, or who have completed, first year sewing, $\frac{1}{3}$ credit—100 points—will be given from the following list:

	Points
Night gown	50
Drawers	50
Corset cover	50
Chemise	50
Underskirt	50
Darning	25
Mending	25
Child's apron	25
Child's dress	50

To girls who are taking, or who have completed, second year sewing, $\frac{1}{3}$ credit—100 points—will be given from the following list:

	Points
Princess slip	50
House dress	75
Shirt waist	50
Woolen skirt	75
Made-over dress	75
Nice dress	100

In all sewing the finished article is to be brought to school for examination, and it will be graded according to score cards used in the class. Girls have score cards in their note books, or they may be procured from the teacher.

Additional sewing and hand work may be done by arrangement with the teacher, who will decide points to be given for work.

CREDIT FOR HOME WORK AT ST. CLOUD, MINNESOTA[1]

The Board of Education in St. Cloud, Minn., recently adopted a plan for giving credit for outside work toward graduation from the high school. The purpose of the plan is to unite the home and the school; to connect the work of the school with the life going on outside; and to encourage the pupils to spend a part of their spare time at some useful occupation. It is hoped that the plan will direct their work in a measure toward everyday, practical tasks; will train them for service, not merely help them in the acquisition of knowledge; and that they will become better fitted to meet the actual conditions around them, and for complete living. The ideal toward which all such work tends is industrial, social, and home efficiency.

The arrangements of credits for gaining the high school diploma are as follows:

Sixteen units are required for graduation, at least 15 of which shall be regular school credits. One credit may be granted for systematic and definite home or continuation work as outlined below.

Seventeen units are required for graduation with credit, two of which may be for home or continuation work. Standings must average pass plus or above 80.

Eighteen or more units are required for graduation with honor, three of which may be for home or continuation work. Standings must average pass double plus or above 90.

Pupils may graduate on the old plan, with 16 or more regular school units. To graduate with credit on this basis an average standing of pass plus must be obtained, and for graduation with honor, standing must average pass double plus.

Outside Work

The following outside work when properly certified will receive credit as indicated: Regular weekly piano, violin, cornet, pipe organ or voice lessons, under an accredited instructor, $\frac{1}{4}$ unit per year for a period not to exceed four years; active membership in any high school or approved city musical organization, $\frac{1}{4}$ unit per year; high school glee club or chorus work, $\frac{1}{4}$ unit per year (credit for music work is limited to $1\frac{1}{2}$ units); literary society work, or rhetoricals, debate, public speaking or expressive reading, $\frac{1}{4}$ unit per year; granite or paving block cut-

[1] Reprinted from *Manual Training Magazine*, XV, 1913, no. 2, December.

ting, or work in any of the local trades, shops, factories or industries, ¼ unit for each summer vacation; clerking in store, bank, bindery, publishing house or office, ½ unit for three months; steady work on a farm, followed by a satisfactory essay on some agricultural subject, ½ unit for three months; horticulture, gardening, poultry raising or bee culture with essay, ½ unit for one season; raising one-fourth of an acre of onions, tomatoes, strawberries or celery, one acre of potatoes, two acres of pop corn, five acres of corn or alfalfa, ½ unit; running a split road drag or doing other forms of road building for three months, ½ unit; judging, with a degree of accuracy, the different types of horses, cattle and hogs, ½ unit; selecting, drying and testing seed corn, ½ unit; faithful definite work in the home, with well written essay on suitable topic, ½ unit for three months; china painting, oil painting, crayon, burnt wood, art needle work or other handicraft or home decoration work, with exhibit, ½ unit; three months' employment in a dressmaking establishment, ½ unit; three months' employment as nurse, ½ unit; three months' summer vacation travel, with written description, ½ unit; "See Minnesota First" trip under approved instructor, with essay, ½ unit.

Home Tasks

The following home tasks when well done and certified by parent or guardian will represent ¼ of one unit or credit: Shingling or painting the house or barn; making a canoe or boat; swimming 300 feet at one continuous performance; installing three or more electrical conveniences in your mother's home; taking sole care of an automobile for one season; preparing one meal alone daily for three months; baking the bread for three months; cooking meat and eggs three ways and making three kinds of cake, with exhibit; making beds daily for three months; doing the laundry work weekly for three months; making a waist, dress or night-gown or other wearing apparel or articles for the home; making a hat or cap; keeping a flower garden, with ten choice varieties of flowers; recognizing and describing twenty different native birds, trees and flowers; sleeping for one year in the open air or with open window; keeping a systematic savings bank account for one year, with regular monthly deposits.

SCORE CARDS

A number of score cards have been received in response to the request in the February Journal. It is hoped that more will be sent.

The following definitions and scores were prepared by Louise Stanley and May C. McDonald for use at the Missouri Home Makers' Conference.

Canned Goods

In the canned product we should aim to have fruit retain as nearly as possible its original shape and flavor. In the case of canned fruits the natural flavor of the fruit should not be hidden by the use of too much sugar. In general the percentage of sugar used should be the same as that found in the juice of the fruit.

Score card for canned fruit

Fruit:	
Shape	15
Color	15
Flavor	30
Juice:	
Flavor	15
Clearness and consistency	15
Proportion of fruit to juice	10
	100

Score card for canned vegetables

Flavor of vegetable	35
Condition of vegetable	35
Proportion of vegetable to juice	20
General appearance	10
	100

Jelly, Preserves, etc.

"Ideal fruit jelly is a beautifully colored, transparent, palatable product obtained by so treating fruit juice that the resulting mass will quiver, not flow when removed from its mold; a product with texture so tender that it cuts easily with a spoon, and yet so firm that the angles thus produced retain their shape; a clear product that is neither syrupy, gummy, sticky, nor tough; neither is it brittle, yet it will break, and does this with a distinct, beautiful cleavage which leaves sparkling characteristic faces." This definition is given by Miss Goldthwaite in "Principles of Jelly Making."[1]

The essential differences between preserves, jams, marmalades and butters are nowhere very clearly defined. Preserves, from the meaning of the word, originally meant the cooking of definite quantities of fruit and sugar, usually equal quantities, to such a consistency that the mass would keep without being hermetically sealed, that is, the concentration of sugar present would be sufficient to prevent the growth of any organisms. In preserves as the name also indicates, an attempt is also made to have the fruit keep as nearly as possible its original appearance and shape, and the effect of cooking in the sugar solution makes the fruit appear clear. In the preserves we can distinguish two essentially different parts, the fruit and the juice.

Jams differ from preserves in that, though the whole fruit is usually used, it is crushed in the juice so as to produce a homogeneous mixture. As a rule only the small fruits are utilized in jam making, for only in

[1] Principles of Jelly Making, *U. of Ill. Bul.*, vol. vii, no. 7.

these are we able to use the whole fruit. When we discard the seed and all or part of the skin the resulting product is a marmalade or butter. In a butter the pulp only is used and it is usually strained to remove any lumps and to distribute the pulp evenly through the juice. In a marmalade part of the peel or skin may be left in, and there are distinguishable two distinct portions, the clear juice and the particles of fruit.

The test as to when done should be, especially in cases where there is any tendency to jelly, the same as for jelly.

Score card for jelly

Color	10
Transparency	20
Taste	25
Consistency:	
Hold shape, not flow	15
Tender, will cut easily	15
Firm, angles retain shape	5
No signs of crystallization	10
	100

Score card for preserves

Fruit:	
Shape:	10
Clearness and color	10
Flavor	15
Texture	10
Juice:	
Clearness and color	10
Flavor	15
Consistency	10
Proportion of juice	20
	100

Score card for jams

Homogeneity (even distributing of pulp and juice and seed)	30
Consistency	30
Flavor	30
Color	10
	100

Score card for butters

Smoothness	30
Consistency	30
Flavor	30
Color	10
	100

Score card for marmalades

Homogeneity	15
Consistency	25
Clearness	20
Flavor	25
Color	15
	100

The following score cards were prepared by Martha T. Bell, for grading her senior classes in household arts and in domestic sanitation. The work was carried out in Demonstration Cottage and a borrowed house, for the College of Industrial Arts, Denton, Texas.

Score card for household management

I. Executive ability	20
Business basis (First things first)	8
Initiative	6
Ability to assemble things as in a meal	6
II. Systematization	15
Division of labor—certain work for certain hours or days	5
Division of time—plan work for whole week, thus getting broad view of the whole scheme	5
Division of income. (As income was set amount, apportioning for different meals or guest days was the only item considered here)	5
III. Economy	10
Time—waste through lack of concentration	3½
a. Dawdling at window without purpose	
b. Useless steps.	
Energy	3½
a. Unnecessary manipulations, as in dusting, sweeping, moving chairs	
b. Using too many utensils	
c. Standing when one could be seated	
Materials	3½
a. Using larger measures than needed	
b. Throwing away or leaving food in utensils	
c. Burning	
IV. Cleanliness and neatness	15
Rooms, furniture, utensils, linen	6
Manipulations	3
Person, clothes	6
V. Industry	20
Sense of values or first things first	8
Persistence	6
Speed	6
VI. Information	20

Score card for ideal house

I. Location 20
- Character of neighborhood
- Elevation
- Adjacent streets and alleys; what wastes?
- Presence of smoke, dust, odors

II. Grounds 10
- Yard, front and back
- Presence of wastes, inorganic
- Care and disposal of wastes, organic, inorganic

III. House
- A. Heating system 10
  - Economic view point
  - Sanitary view point
  - Aesthetic view point
- B. Ventilation 10
  - Affected by construction
  - Affected by furnishings
  - Affected by adjacent buildings
- C. Lighting 10
  - Natural; affected by
    - a. Construction 3
    - b. Furnishings 2
  - Artificial
    - a. Efficient 1½
    - b. Sanitary 1½
    - c. Aesthetic 1
    - d. Economic 1
- D. Water supply 15
  - Purity affected by
    - a. Source
    - b. Habits of household
- E. Rooms 25
  - Construction 15
  - Furnishings 5
  - Care 5

Score card for cooking lesson

Hypothesis: Perfect concentration followed by the resultant, comprehension, evidenced in

I. General methods 50
- Perfect measurements 10
- Perfect use of utensils 5
- Perfect manipulations 5
- Perfect results through attention to processes as baking, freezing, etc., shown in flavor, form, and color of product 30

II. Food preparation 50
Waste of materials 10
a. Under or overcooking
b. Throwing in garbage can
c. Running over
d. Leaving in utensil
Waste of time 10
a. Useless manipulations
b. Useless steps, dallying
c. Doing last things first
Waste of energy 10
Useless movements, as opening oven, walking, etc.
Neatness—desks, dishes, manipulations 10
System and quiet work 10

THE SCHOOL FOR HOUSEMAIDS IN DENMARK

GEORGE NESTLER TRIOCHE

The need of well-trained servants is as keenly felt, nowadays, in Europe as in America. The only difference between the old world and the new, in this respect, seems to be that in the United States higher wages are paid for poorer service. The trouble everywhere is that housemaids and cooks do not receive a suitable training and have often no way to acquire it. In Denmark at a time when people were less busy, or rather less hurried, a great many young girls were instructed in domestic science, little by little, on the farms or in small country homes, by good and patient housewives. They were willing to receive a very moderate compensation, or none at all, for the sake of making their apprenticeship. This is now a thing of the past. The prospective housemaid, like everyone else, wants to make money as quickly as possible. As servants are always in demand, she seeks, and generally has no trouble in obtaining a situation for which she has little or no qualification.

Since home training no more exists, the only way out of the difficulty is the professional school. It is hoped that the competition of graduates from such establishments will soon oblige the rank and file of servants to join the school or else to be satisfied with a smaller salary —that of the unskilled.

In Denmark, this remedy is already out of the experimental stage. It should be noticed that the first efforts toward a regular, systematic training were made by servants themselves. The Servants' Association founded at Copenhagen in 1901, opened five years later a pro-

fessional school under the auspices of several wealthy and influential ladies of the place, 15,000 francs (about $2884) being devoted to the organization and maintenance of the establishment. At first, a single floor was rented in an office building but it was soon necessary to move to larger quarters.

In 1913, there were eighteen pupils in the Copenhagen School, divided into three classes: cooking, general housework, washing and ironing. The course lasts six months, but pupils pass every week from one class to another; for instance, after seven days spent in the cooking class, they are sent to the housework class for another week, then to the laundry, and come back to the first class on the fourth week.

In the cooking class, they have to prepare and serve a two or three course meal for six people, and do the marketing for it. And marketing in Denmark is what Americans would call "the real thing." It does not mean the ordering by "phone" of goods which one sees only when they are brought home, too late to be sent back if not satisfactory; it means going out, in any kind of weather, choosing foods oneself, bargaining on the market place with truck gardeners or fishmongers, and bringing the purchases home in a basket. The course in the housework class implies learning the care of two rooms and a waitress' duties. In the laundry class, pupils wash, iron and mend their own clothes. When the course of six months is completed, the girls who have passed the examination are granted a diploma.

At the beginning, there were no charges for tuition, but in 1910 it was deemed necessary to require a fee of 10 crowns (about $2.70) per month. Since 1906, 194 pupils have graduated. Since the association opened a supplementary course for cooks and another for lady's maids (for 305 and 27 pupils respectively), the total number of girls taught in the Copenhagen School has increased to 526. Financially, the institution like other philanthropic undertakings, is not a success. The annual deficit is made up, chiefly, by subsidies from the state and the city ($534 each, per year). Lately, this school has opened a small restaurant where from 70 to 80 people take their breakfast or noon meal every day. "Outside washing" is also accepted by the laundry department; and cakes, bread, and delicatessen made by the cooking classes are now sold to the public. In that manner, the deficit was, in 1913, reduced to about $1480. It is said that other cities are contemplating the opening of schools similar to that of Copenhagen.

THE WORK OF THE HOME ECONOMICS DEPARTMENT, GENERAL FEDERATION OF WOMEN'S CLUBS

HELEN LOUISE JOHNSON

Prof. Simon Patten has said that "the battle for reform is more than half won when a substantial number of people use the same terms in talking of it. We see as individuals. We socialize as we use a common language." The unsocialized condition of Home Economics can be illustrated by the experience of the chairman of this department who was graduated from the *domestic science* department of one college and studied in the *household administration* department of another. She then taught in the *household science* department of a college, going from there to the *domestic economy* department of a college in the same state, and returning to an eastern college to open a department of *Home Economics*. Should she now return to her original college she would be in the *School* of *Household Arts*. This is an absurdity, and explains much of the misunderstanding of this educational movement.

The members of the American Home Economics Association must know that the recommendation of the committee appointed from that body and the National Educational Association was for the universal adoption of Home Economics as being the most comprehensive name for this body of subjects.

We know of no greater assistance which could be given this cause all over the country than for the leaders and teachers of Home Economics to read and adopt the recommendation of that committee on nomenclature and thereby establish at least a common basis of understanding in relation to terms. The American Home Economics Association must do this, for no one group of teachers, no one state, no one person, can make much impression. It is a question of socializing; a matter of reform, and upon it much depends.

In October a letter was sent from this committee to the presidents of all state federations whose annual meetings occurred this fall. This letter requested action on four things. The first among these was the adoption of the name Home Economics in the State departments of this character, in order that the clubs of each state may be urged to use, for this group of subjects, the uniform name which has been approved by the American Home Economics Association and others of like character. The response to this was immediate and general, many of the states voting to change the name from household to Home Economics as suggested.

We are now about to send this request to the clubs in general in order to pave the way for that better understanding of the scope and meaning of Home Economics, which it is hoped will result in work of a more uniform character and grade throughout our public schools.

It should be unnecessary to explain the great need of compulsory education of this character in the grades. Only about 1 per cent of the girls and boys of this great country go to college. Some 10 per cent are able to go through high school. About 90 per cent leave school at the end of the compulsory age. This means that the majority of girls attending our public schools leave school for work of some character at the ages of thirteen to sixteen, and even younger. Many of these children have no opportunity whatever for learning good methods of carrying on those activities on which the home depends, unless they can be taught in school. There is no use in citing the old argument that girls should learn to cook, and to sew, and to clean, and to wash dishes, and to make beds in the home. Whatever they should do, they no longer learn those things there, and in a multitude of instances there is no opportunity to do so. Housekeeping and cooking, the care of babies, and the wise expenditure of money for healthful, nutritious food no more come by instinct just because a girl has become a wife and mother, than successfully running a department store comes by instinct to a man because he has become a husband and father. The details of each business are learned through experience but there is but one safe time to acquire that experience, and that is before life and living may be wrecked in the learning how.

This all has to do with another recommendation relating to the granting of entrance credits in Home Economics by the colleges not now accepting them. The committee on College Entrance Requirements appointed at the Boston meeting of the National Educational Association reported on manual training and Home Economics together, hence it is somewhat difficult to select the direct data in regard to this latter subject.

At the time the report was made, twenty-eight co-educational institutions accepted from girls two or more units of household science and art for entrance credit. This list included such important universities as those of Chicago, Wisconsin, Minnesota, California, and Cincinnati. In addition, forty-three more colleges and universities accepted household science and art in different amounts, the maximum being four units, the minimum one. This list included the Universities of Illinois, Michigan, Nebraska, Ohio State, Northwestern, Ohio

Wesleyan, and others. There were some fifteen other institutions which accepted such credits in varying amounts, one of these being Columbia, another Cornell University. Twenty-five more would accept drawing, but no household science or art; six more were indefinite.

One hundred and eighty-eight institutions were investigated and out of these sixty-two give no credit for drawing, shopwork, household science or art. This list includes Wells, Vassar, Wellesley, Smith, Mount Holyoke, Bryn Mawr, Oberlin, Williams, Amherst, Princeton and Yale.

The committee also reported upon an increasing tendency for independence of courses in high schools throughout the country, a better understanding of the actual needs of their students, a recognition of the broader functions of the high schools and an evinced intention of cultivating purpose, habit of application, power, originality and discriminating judgment, rather than a clinging to the traditionary studies and methods of former years.

In the West greater latitude is permitted in many respects, especially in states not hampered by regents examinations, but in any school the student, quickly inoculated as to the value of credits, will not select an important *life* subject if it has no credit.

This Department of the Federation has been requested to coöperate in securing these credits in the colleges attended by women. What stands in the way? In the first place, it is necessary that high school work in Home Economics should be deserving of high school credit. In high school, no more than in college, should work be accepted and credited which in fact belongs to a lower school or grade. If there is high school mathematics prescribed and uniform, then to the same degree must there be high school Home Economics. Mere cooking is not high school work, even where it implies a degree of skill. And it is lack of uniformity of agreement as to what shall be taught and when, which delays the granting of credits in many places.

This difficulty must be met. The women's clubs in their immense organization can undoubtedly succeed in creating a quite universal demand for these credits when it is time to proceed. It is however unwise to move too rapidly in this. There are a dozen considerations, all relating to the teaching of these subjects to be taken into account. The American Home Economics Association, and the Home Economics Department of the General Federation should collaborate and work together on this problem, and it might be wise to suggest a committee made up of members from these two organizations to formulate a plan of work.

EDITORIALS

Twenty Years of Home Economics

In the next Biennial of the General Federation of Women's Clubs to be held this year in Chicago, June 9–19, the Home Economics Department will celebrate the twentieth anniversary of the beginning of Club Work in what was then called Domestic Economy or Domestic Science which started in that city in a National Housekeepers' Convention in October 1893, and out of which was to be evolved the National Household Economic Association.

Your editor was present and took part in this wholly new effort to bring to the age-old, inherited occupation of women the benefit of intelligent public discussion. Some hundred women gathered in the little auditorium with raised seats for the two day convention. Prominent among them was Mrs. Melusina Fay Pierce of Cambridge whose series of brilliant articles on Coöperative Housekeeping published in the Atlantic Monthly some twenty years before had brought the subject of housekeeping into the field of economics and gained for it a breadth of treatment hitherto unkown. It ceased to be from that time a back-door subject. But it was still too early to obtain from a group of practical housekeepers any discussion of their business on wholly new lines, and Mrs. Pierce's eloquent plea for the starting of household industries as laundry and cooking on the coöperative plan aroused no answering enthusiasm.

All of the papers, no matter what their subject, found their way by direct or circuitous route to the servant question; that alone held the interest of the audience and the most applauded remedy for bad conditions was that of the Golden Rule. Few of those present seemed to realize that there was any relation between this servant problem and the fact that steerage passengers were already coming not from Ireland and North Germany as in the fifties, but from southern and south-eastern Europe, also that 300 new occupations had been opened to women in the last fifty years. Few saw that this question of house service was not a personal question at all and that the Golden Rule alone could not meet it, that it was simply an outlying part of the great unsolved question of capital and labor with which the economists and statisticians are always wrestling.

Those whose memory covers the social and educational advances of these two decades see a great change in the attitude of the intelligent woman to her business of housekeeping. She has lagged even more than her companion in backwardness, the farmer, in grasping her relation to modern discovery and invention, but the poor hit-and-miss farming of the past has become the scientific agriculture of today and housekeeping has heard the word of advance along the same lines.

The great number of college-trained women that have come in these twenty years to preside over homes has also done much to bring about the difference. They have attained the broader view, they have at least an inkling of the scientific method. But still more has been accomplished by the now well-equipped schools for teaching the household arts in the public schools and for giving higher education in these subjects in the agricultural and state colleges and normal schools and in special institutes and also by the popular and technical bulletins issued by the Department of Agriculture and the experiment stations. Information is now obtainable on every line of practical application to the needs of the household, information that is not guess-work nor from left-over text books of fifty years ago, but abreast with the times. She may avail herself of movable schools and correspondence courses, all of which are to be greatly increased through Federal appropriations if Congress passes (as it now seems certain) the Lever-Smith bill which gives an appropriation of $10,000, to be increased to $50,000, to each state, contingent upon the state's granting similar amounts for extension teaching in agriculture and Home Economics. How to house and clothe and feed her family the woman may learn from undoubtedly correct sources.

At the very time when this first housekeepers' conference was applying in full faith the Golden Rule as the sovereign remedy for the only condition in which there was universal interest, the systematic study of nutrition was begun in the United States under Professor Atwater, with the result that the general government has taken up not only the study of food and nutrition but many other fundamental problems of home life including various aspects of clothing, shelter, and household management. Old facts of chemistry, physics, and biology have been taken out of their original setting and expressed in the housekeeper's terms; hence clear and definite directions for bread making, fruit canning, intelligible dietary standards for old and young, the idle, and the hard working; and much light shed on the kitchen and table superstitions of yesterday. As a result of scientific researches of the

last twenty years the housekeeper knows the relation of flies and other insect pests to the spread of disease and just why and how she must fight them; she knows that fly-borne infections are in most cases responsible for the dread connected with the babies "second summer;" she knows that unclean hands and dust and dirt are dangerous as well as disagreeable, and why; she knows her friends and foes in bacterial life. Laboratory science has given her knowledge of the wearing quality of the materials she uses for clothing and of good and poor colors in textiles. New materials and new glazes for cooking utensils are at hand as the result of scientific work; and hygiene has added its requirements to those of use and beauty in the construction of our dwellings.

The mother or teacher of twenty years ago could hardly go beyond sewing and cooking (the results of the latter art to be judged chiefly by the palate), but now the teacher finds a back-ground of science and a wealth of material to assist in the study of all the household arts. The Domestic Art field, which in 1893 had no scientific background now has its laboratory courses in textile chemistry and microscopy.

By these means, the study of the house, its equipment and its management has now attained the dignity once reserved for remote fields of knowledge. The JOURNAL stands for the application of all this knowledge; the average housekeeper has only just begun to use it, the household machinery is still cumbrous and complicated, and we have yet to work out the relation of the home to all outside helps, and to learn the tremendous power of the consumer when educated to demand well-built houses and efficient equipment for running them.

The generation now in the saddle must work out these problems; it owes a duty to those trusting young couples who take out marriage licenses at the court house.

Bibliographies

One of the essential tools in any type of scientific work—using "scientific" in its broadest sense—is the bibliographical tool. This means not only a collection of books, but the ability to find out what printed matter is available on any given subject. Such ability develops only with experience. It has at its base the knowledge of the use of published bibliographies, of indices, tables of contents, card catalogues, and all devices for listing books. Unless the work is done satisfactorily by some available library, it means a card reference list to such material. Many times those working in Home Economics decide on the use of a

certain reference or text book in some one of their subjects only because one person has recommended it. No such decision should ever be made without a knowledge of all available books and of their comparative merits, uses, and weak and strong points.

For such purposes annotated bibliographies are of the greatest importance, and the JOURNAL reviews offer valuable material for such annotation. The Bibliography of Current Literature published in every JOURNAL is invaluable in keeping the knowledge of possibilities up to date. The JOURNAL prints, for those who subscribe 50 cents a year, extra copies on one side of the paper, so that the titles may be cut and mounted on cards. Some of the books or articles listed may seem at the moment of little interest to a given person, but the very items at first disregarded may become of great importance at some other time. Certainly no school can afford to be without this material, classified and arranged for ready reference.

Affiliated Associations

The plan of organization of the American Home Economics Association provides that affiliated societies may be formed in cities, states, or institutions, and that affiliation may be had with the national organization if ten members of the local society are members of the national organization. There are already a large number of local societies so affiliated. Just what purpose these local societies can best serve and what program of work they shall adopt has always been a question of importance. The Committee on Organization of the Association has this matter under consideration and doubtless a report will be forthcoming at the Cleveland Convention. Meanwhile the JOURNAL offers the following suggestions.

Local societies will find it well to specialize each year on some particular subject. Variety is enjoyable but accomplishment waits upon a definite purpose. Our local societies ought not alone to provide meetings with programs but ought also to undertake definite efforts for some progressive action. As for example, the study of home economic legislation in their own state and the securing of reform. Each local society should in time, affiliate with itself a section devoted to housekeepers which would hold its own meetings and undertake progressive work of a nature suggested by the Housekeepers' Department of the JOURNAL. In the larger cities, institution management sections ought also to be organized by the local societies to coöperate with the Administration Section of the Association. Everywhere

local societies ought to coöperate with public libraries and see not only that the JOURNAL is received regularly, but that a definite reference shelf for the housekeeper is provided and that new books are added promptly. We should like to see some local society undertaking coöperation with the local newspaper to the end that an improved woman's page or column may be developed. An inquiry to this end has recently come to us from a Montana woman's club. Local clubs will do well to provide an opportunity for at least one social gathering a year, preferably a luncheon, at which some definite topic of importance can be considered. Finally, report plans and results to the JOURNAL in order that all may benefit.

Richards Memorial Fund

Members of the Association are asked to coöperate in the continued effort to advance the Richards Fund. This should be supported not alone as a memorial to the founder of our work but also to establish an agency which will provide funds for the research and publication which are so sorely needed in a new movement like ours. We have already published a Syllabus of Home Economics, a reprint on The Richards Memorial Fund, and a reprint on Richards Day.

The student organizations in our universities, colleges, and normal schools should all plan during the academic year of 1914–1915 to arrange a benefit of some kind which will result in a school or community contribution for the fund. For this purpose, the Richards Committee has under preparation a plan for a historical pageant and full information about it will be supplied to schools early in the fall. It will provide a suitable observance of Richards-Rumford Day. Many schools are finding it desirable to place this later in the year than December 3, Mrs. Richards' birthday, since the new students are not by that time fully acquainted with the Home Economics idea.

HOUSEKEEPERS' DEPARTMENT

The editors of the JOURNAL earnestly request assistance from the readers of this new department. They especially desire suggestions for timely topics on which information should be gathered; data either given directly or by reference to books and articles; and records of personal observation.

It is the present policy of the JOURNAL to give to its readers, in each issue, news of the progress being made in coöperative buying. There is abundant proof that coöperative stores, so long a success in Europe and especially in England, are to be tried in this country. "Why has every attempt at coöperation failed in America?" was asked two years ago of the Edinburgh coöperative store which has 42,000 members and whose sales are now seven and one half million dollars a year. "Because your people will not put themselves out to save a penny" was the prompt reply. Has the rising cost of living brought about a new attitude and a new resolve?

To those who would know of the first steps in starting coöperative buying with a very moderate capital, the following report will be of great interest. It will be noted that it is still in that stage of experiment when the initial enthusiasm of the promoters provides the time and energy for superintendence. Making the change to fully paid management is an important and difficult step.

THE CIVIL SERVICE COÖPERATORS OF WASHINGTON, D. C.

HOWARD L. AND CORA S. KNIGHT

It is coming to be generally realized that the present methods of buying household necessities inevitably add to the cost of goods to a degree which thrifty people would be glad to escape. In Washington nearly 1600 grocery stores are listed in the city directory which for a city of approximately 66,000 families is one for about forty families. They have to meet the cost of frequent deliveries and loss of bad debts since the custom of monthly accounts is very widely followed. These with all other expenses of business must be paid by the customer who also yields to the temptation to order by telephone, a method which undoubtedly adds to weekly bills since it does not require her personal scrutiny of what she is buying.

Coöperation, long a sort of standard remedy in such conditions, has been frequently attempted in Washington. One ill-fated plan in particular, under which a store with clothing, boots and shoes, meat, gro-

ceries, etc., was carried on, is now only a painful memory to those who supplied the initial capital for the venture. In a way, however, this and other enterprises served a useful purpose in pointing out both the merits of coöperation and also the many pitfalls in the path of would-be coöperators. Scarcely had it closed its doors when the plan here described was begun in a very modest way.

A few government employees found in 1911 that they could, by clubbing together, buy smoked hams and bacon of superior quality at a substantial saving. A canvass of several bureaus resulted in a considerable number of orders, and purchases to fill them were then made by those originally interested who assumed financial responsibility as well as the burden of distribution of goods, collections, etc.

At the start the goods were taken weekly to a central point and from there carried home by the purchasers; but when a supply of high grade butter was obtained and the volume of business became greater, a more formal organization, a regular office and weekly deliveries became indispensable.

The outcome was the organization, December 4, 1911, of coöperative buying by the Civil Service Council, an association made up of government employees. The annual dues were $1 and it had for its object the promotion of social acquaintance as well as the organization of coöperative undertakings.

The purchasers from the store soon found that under the plan followed they were receiving goods of high grade and in full quantity, and were also making substantial savings. Economically, however, the plan was admittedly only a makeshift. The members had contributed practically no capital, the necessary funds being still advanced by a few people specially interested, most of whom were also contributing much time in connection with purchases, book-keeping, make up of orders, and in similar ways. It was, therefore, merely an instance of a few temporarily carrying the responsibilities and duties for the many who were being benefited, and not true coöperation at all. Another disadvantage was that legally the enterprise was a joint stock company, so that in the event of failure each member was liable for any debts contracted.

Efforts at incorporation were begun, and after considerable delay, due mainly to the fact that corporation laws in most states have not yet recognized the fundamental principles of coöperation, the Council became, on February 25, 1913, a corporation of the District of Columbia, under the name of Civil Service Coöperators, Inc., with power

to conduct a "general grocery and merchandise store and all lawful business in any wise appertaining thereto or in connection therewith." Among its expressed objects were the following: to advance the common interests of its stockholders as consumers, through the conduct of a business on the coöperative plan, and to extend the practice of coöperation and to educate the public concerning its advantages and concerning other matters relating to the public welfare.

The capital stock of the company consists of 500 shares each of preferred and common stock with a par value respectively of $5 and $1 per share. One share of common stock is assigned to each member, who must also subscribe for one share of preferred stock, though he may pay for all but $1 of the latter from the dividends on his share of common stock. Thus, this plan will eventually provide a paid-in capital of $3000, but actually requires but $2 in cash from new members. It was fully realized that $3000 is a very small investment for an enterprise of this sort, and that operations would be considerably handicapped by the limited capital, but the previous failures have resulted in such skepticism as to the ultimate success of any coöperative plan, that it is very doubtful whether a sufficient number could have been interested had a large initial contribution been required.

Many supposedly coöperative undertakings in this country have come to grief by their eventual control by a few individuals, these sometimes even representing competitors. Unusual efforts were therefore made to guard against this contingency. Only one share of common stock is issued to any one stockholder. No limit is placed on the number of shares of preferred stock which may be held by one person, but the preferred stock is non-voting. A holder of common stock can cast but a single vote, and no voting proxies are allowed. Moreover, all transfers of common stock must be approved by the board of directors, and they have the additional right to call in at any time all shares held by a person who is acting contrary to the interests of the organization; they may also call in all shares in excess of one held by any person.

Dividends are to be paid annually from the net profits. Holders of the full-paid preferred shares first receive 6 per cent on their par value. Such of the remaining profits as the directors deem advisable may then be divided among holders of the common stock on the basis of their purchases during the previous year, except that holders of preferred stock receive double the share of non-holders.

The mode of conducting the business is as follows: A printed order

slip with list of goods on hand and prices is mailed to each member at the end of the week. This must be returned by the following Monday, together with a remittance for what is ordered. To simplify office work checks are requested in even dollars, and small balances are carried over from week to week. Orders are then made up and distributed by the company's teams on Thursday, Friday or Saturday. The store is centrally located and is open during the usual hours for purchases over the counter, as well. It also has a telephone, but this is regarded as a convenience for obtaining information, correcting errors, etc., and its use instead of the mail order is not encouraged.

The number of articles now carried is about 260, and is constantly being increased in response to requests from members, or as new opportunities arise. One of the recent innovations has been the arranging for delivery of eggs direct from producer to consumer by parcel post. This plan was begun as an experiment, but was received with enthusiasm, far more orders resulting than could be supplied. Very little breakage is reported, and the sources of supply are being perfected for fresh-killed poultry. The bulk of the goods handled consists of dry groceries, particularly canned and package goods, dried fruit, extracts, soaps, etc., although butter has remained the most popular item supplied. The superior grade of goods furnished has been one of the most attractive features of the store.

As to the scale of prices it may be said that the tendency among cooperators today is to avoid price-cutting, and to follow the prevailing rates, the excess to be returned to purchasers in the form of dividends. This is in harmony with the spirit of true coöperation, with which "bargain hunting" has little or nothing in common. However, what is described as a compromise course has been followed thus far. On many articles prices are considerably lower than the prevailing rates. Thus, on package goods usually sold at 10 cents, a 9-cent price is used; 25-cent goods are listed at 23 cents, and so on. Opportunity is also offered for substantial reductions on case lots and large quantities. On the other hand, some commodities are sold at approximately the regular rate, and a few are even higher. Sugar, for instance, on which, as is well known, grocers make little profit, can usually be bought for less money elsewhere, and a certain brand of soap which grocers sell at 5 cents and the Coöperators at $4\frac{1}{2}$ cents, may always be bought at a local department store for 4 cents.

The question of raising all prices to the current level is under dis-

cussion, but however it may be decided for the future, the writers believe the past procedure has been a wise policy, and that it is an instance of where expediency is wiser than strict adherence to academic principles. A movement of this sort must grow by the addition of new members, and the local conditions demand inducements more tangible than the possibilities of faraway dividends. Nor should the preference of the would-be patron for the "bird in the hand" be too severely criticised, especially when it is realized that the system has some fancied disadvantages and others which are more real.

To the average city housekeeper the plan of weekly orders and deliveries seems pitifully primitive and inadequate. But this inconvenience is due to the necessity of starting in a small way. If the enterprise grows, the larger capital obtained will enable the store to meet all the needs of the coöperators by a daily delivery.

Less than a year has elapsed since incorporation, but some interesting results are already reported. With the prevailing system of management and scale of prices the running expenses amount to about 14 per cent of the returns from sales. The rent item, well recognized as one of the heaviest overhead charges in the usual retail store, constitutes but 8 per cent, office expenses 7.4 per cent and delivery costs 2.9 per cent. The remainder is largely used for printing the weekly order slips and the very useful circular of information which accompanies them and for numerous miscellaneous items. The buyer and manager receive a moderate salary, to be increased as the business grows. After paying the original cost of the goods the balance is available as profits. The business has grown steadily, the receipts in January being $500 a week, and is increasing constantly, and at the annual meeting, January 21, 1914, the full 6 per cent dividend was declared on the preferred stock; interest on the common stock will doubtless be paid during the year. If the project fails no member will have suffered serious financial loss; in fact, his savings have doubtless already amounted to as much as the capital contributed in nearly every case, and he has benefited in numerous ways. If it succeeds, an alternative to the present methods of retail store management will have been made available, and this should be of considerable economic advantage to all concerned.

EQUIPMENT AND ITS RELATION TO HOME-MAKING

GEORGIE BOYNTON CHILD

An exaggerated instance of failure to have equipment suited to her conditions was illustrated in the case of a woman who moved from a comfortable roomy house in the country to an apartment in Brooklyn. Into the tiny rooms went double beds and bureaus and couches, so that her apartment was a very unpleasant place to live in, the congestion causing great disturbance of spirit. But we do not have to take extreme instances to prove that there are very few homes today so equipped that they can be operated with the minimum of labor. So many things have to be taken into consideration in fitting out a house, the limitations of the house, the amount of money available for purchasing the outfit, the cost of repairs and the operating expenses, and above all the amount of labor that will be saved by a wise adjustment of all these factors.

The equipment that has the most direct bearing on the running expenses and affects most seriously the comfort of the home-maker and the members of the household, is the equipment of the kitchen. This in a way determines the operating expenses. In many cases a well-planned kitchen with equipment properly selected and rightly grouped makes it possible for a woman to do without domestic service when differently equipped she would be obliged to keep resident help. In many cases it has been possible for families who have kept three or more domestic workers to keep only one, depending on help hired by the day for all extra service that is needed. In one case, known to the writer, where the household was reorganized on these lines the saving was several hundred dollars a year in money, with a gain of great peace to the household and of added freedom to the home-maker. In another family the saving in money nearly doubled that amount, being nearly two thousand dollars a year. This seems impossible until we reflect that one domestic worker costs in board and wages nearly five hundred dollars a year and that a far greater percentage of waste takes place where two or more domestics are kept. It is more difficult for families keeping only one maid to get competent general house-workers. There is therefore every incentive for such families to get the benefit that comes from the new methods of organization and from the new resources that are offered today in labor-saving equipment so that they may be independent of resident labor.

It is no easy matter to master this question of equipment, but it is

very important that it be mastered, for it places the home-maker in command of the situation and enables her to solve in a constructive way the problems that are summed up in "the high cost of living."

Home-making calls for love, intelli ence and expert training. Very often women who are abundantly endowed with the right thought and intell gence to make the most perfect kind of homes have not had the training to master the technique and are discouraged by its complexity. There are so many homely facts to be reckoned with, so much apparently unimportant detail to be covered, that the task seems hopeless. And so they drift along and let their lives and their home-making be controlled by circumstances. All that is needed to transform such homes is willingness to look at the prob em from a different point of view; to see that mastery of the work we have chosen is the first step to a self-mastery that vitally affects our characte that wil do much toward creating right ideals in our children; and that will do more for the world at large than any work outside the home, however brilliant, if undertaken at the expense of the responsibilities we assumed when we started out in married life.

DO "MODERN CONVENIENCES" PAY?

A valuable comparison, as to cost of service, between old and new methods of house building and fitting is furnished by Jessie Carey in a recently published article.[1] Under the title of The House and the Art of Living in It, she describes her London house as she has built it in order to bring "a more logical adjustment of domestic life to existing circumstances," among which latter she enumerates the taking up by women of new social and public duties so that they have not the old leisure to supply deficiences in house service which are following its increasing cost and the decreasing number of hours per week which the servant is willing to work. She anticipates still further increase in wages, an eight-hour day, and a compulsory weekly holiday. And this is in a country which to the American eye has no servant problem. It would be well for us in the United States to face coming conditions as frankly as does this English woman.

Her way of meeting the situation is to reform the house and thus diminish the work to be done in it, for it is in the upkeep and the running of the house that extravagance or economy has its rôle. This author assumes, by the way, that your expenditure will be ten times your

[1] *Contemporary Review*, 104, 1913, Sept., pp. 395–403. Littell's *Living Age*, 7 ser. 62, 1913, no. 3627, pp. 109–116.

rental, a statement which if true should be added to our scanty list of facts as to the division of the income. In short, to spend in new arrangement and equipment not a small sum but enough so that a house can do without one of the maids now employed will be a true economy. The wages, food and laundry of one maid being reckoned in London at £60 or $300 a year, the amount saved in twenty years, or $6000, it is calculated would cover the cost of all needed labor saving devices and their upkeep whether in permanent building or appliances.

The ideal is that every house should be so made and fitted that a gentlewoman can do all the work in it; hard and dirty work, as the carrying of coal and water and the scrubbing of rough wooden floors being avoided in the following ways; by supplying hot water to every room at any moment and in any quantity by an automatic gas circulator installed for $50 and run at far less cost than by burning coal in the kitchen range; the heat for upper rooms to be furnished by registers from below (and to sacrifice the beloved open fire is full proof that this Englishwoman has the courage of her convictions) while the labor usually put on floors is reduced to a daily dusting by laying parquetry at about double the cost of a good linoleum or $2.25 a square yard, this flooring to be polished once or twice a year by a man from outside. Minor points insisted on are rounded corners in angles between floors and baseboard, in order to avoid dusty corners, and also white enamel faucets, polished wood for stair-rods, the use of more glass and china and less silver, all to avoid tedious polishing; the use of tiled walls for bath room, kitchen and pantry of casseroles for cooking and of all possible small conveniences to save labor, as a cold water tap above the stove for filling kettles.

The writer also calls for smaller sized dish washers, potato parers and boot polishers to be placed on the market and suggests a commission to inquire into the methods of doing housework in all civilized countries.

In our American cities $300 a year will pay only the wages of a maid; one-half to two-thirds more must be added for food and other expenses. Thus, the saving in doing with one less maid would amount in twenty years to approximately $9000. If it pays in an English city to install costly apparatus to diminish housework, still more will it pay in our American houses.

Who will give us additional facts in this comparative study of costs? Meanwhile let us call for more women architects who should be better equipped than men for planning the house in which efficient labor is possible.

THE INTER-RELATION OF RAILWAY AND HOME SANITATION

The subject of railway sanitation seems at first thought to be far from the housekeeper's field of interest and responsibility, and yet in reality home sanitation and public sanitation of whatever kind act and react upon each other. Diseases may be transmitted from one home to another through the association of people in public places, and, thus, precautions in the home make for safety in public places and precautions in public places, for safety in the home.

There is another and equally important, though less direct, relation between private and public sanitation, which may be called educational. It is the carefully trained child, used to cleanliness in his own home, who is most likely to notice and to protest effectively against filthy practices in public places—on railway trains, for example, or in stations. On the other hand, conspicuous cleanliness in places where many people gather may teach lessons which will be helpful in home education. To illustrate: A woman, who from force of circumstances is accustomed to hearing hygiene and sanitation discussed almost daily, had never thought that water bottles for use on the table might be equipped with metal tops operated by levers, much like the cover of a syrup jug, until she saw such an arrangement on one of the Harvey dining cars of the Sante Fe Railroad. Such is the inertia of the human mind that she had taken for granted that fringed napkins, much more difficult to keep clean than metal tops, were the only possible means of protecting the water in the bottles from dust or from flies crawling in and around the neck of the bottle. Housekeepers, on the one hand, with abundant opportunity to study the problems of sanitation in their small domains, and railways companies, on the other, accustomed to doing things on vast scales and able to command the services of experts, must teach each other.

In April, 1913, Samuel Rea, the newly elected president of the Pennsylvania Railroad, issued the following order:

Waiters Must be Healthy; Those Having Communicable Ailments Must Leave.

The following extraordinary precautions against the transmission of communicable diseases by the dining car and restaurant employees have been adopted:

There is to be a quarterly physical examination of every employee who has anything to do with the preparation or serving of food. Dish washers, kitchen helpers, cooks, and waiters must undergo an examination every month, and only a 100 per cent report on their physical

condition will permit their remaining in the service, while those suffering from tuberculosis, diseases of the eye or skin, and any other communicable disease, may not be employed in any capacity in which they might come in contact with food; further precaution will be taken in debarring them from employment in places in which linens and tableware are kept.

Was this position well taken by the President of the Pennsylvania Railroad? In answer, we refer to one single piece of research work out of many which might be cited. S. L. Cummins, writing in a recent journal,[1] tells of his experiments made for the purpose of determining whether typhoid bacilli can be transmitted to food by means of the hand. His tests were made on persons known as typhoid fever carriers, *i.e.*, persons who are able to be about and at work, but who, nevertheless, carry with them the germs of typhoid fever which they excrete in the urine or the feces. One of these persons is likely at any time to apply for a position as cook or waiter. And, it is hardly necessary to say that his hands are liable to come in contact with his urine or with articles of clothing soiled by the urine. In order to determine how dangerous these people are, Cummins dipped the index finger of his right hand in the urine of a typhoid carrier (proved to contain 3,000,000,000 typhoid bacilli in every cubic centimeter, a volume about equal to that of a die used in playing backgammon). He then rinsed the finger in a strong disinfectant. Following this, he washed the finger first in cold and then in hot water. Even after this careful cleansing, much more careful than we expect of any waiter or cook, he found that some typhoid bacilli still remained on his finger. Going further, he washed his finger in absolute alcohol and, while the number of bacilli was greatly reduced, a few remained. With the less thorough washing which is customary, bacilli might easily be transmitted by a typhoid carrier to towels and from them to dishes and from the dishes to food. Cummins went still further with his study; he dipped only the very tip of his index finger in the urine of a typhoid carrier and then brought the finger in contact with a bowl of freshly prepared soup. The next day the soup was found to contain 15,500 typhoid bacilli to the cubic centimeter. In view of dangers of this kind, the action of the president of the Pennsylvania Railroad is greatly to be commended.

While we are on this disagreeable subject, which the "dainty-

[1] *Journal of the Royal Army Medical Corps*, 20, 1913, p. 657.

minded," as some one has called them, refuse to consider, it may be well to ask whether there is any danger to the health of passengers from the sewage which, according to present methods, is deposited on the track from passing trains. In answer to this, we may cite the work of Stiles and Keister[2] which appeared recently in one of the Public Health Reports of the United States Public Health Service. These investigators say that it has been proved that not a small percentage of human beings are constantly eating human excreta—in small quantities it is true—but even so the condition is disgusting. Certain tiny organisms are found only in human excreta and can be transmitted from one human being to another only by this means. Stiles and Keister examined 187 persons, selected at random, and found that 30 per cent of those who lived in houses with outdoor privies were bearing these micro-organisms about in their persons, while only 20 per cent of those who lived in houses with indoor water-closets were infected. Of the latter, they say, many were found to be living near houses having outdoor privies, though not actually in such houses. In these cases flies are supposed to be the carriers. It is not reasonable to suppose that filth can be carried to a kitchen from a neighboring privy and not to a dining car from excreta lying on railway tracks. In view of these facts, it is encouraging to know that many of the western roads are screening their dining cars completely. Not only are the windows screened, but a screen door is placed in the narrow passageway which leads from the vestibule to the main part of the car.

The abundance of the literature on railway sanitation shows that the public is aroused. An editorial in the *Journal of the American Medical Association*[3] deals with this important matter of the disposal of sewage of trains. It begins by commending, very justly, we think, the railroads for the advance they have made of late in applied sanitation. "The railways are indeed to be commended for their gradual introduction of hygienic regulations that keep their cars, in spite of the numbers of people who travel in them every day, in a state that is not likely to endanger health. There remains, however, one phase of railway sanitation that will soon have to be dealt with." The editorial proceeds to speak of the danger to health resulting from the scattering of sewage in towns and particularly of the fact that the sewage sometimes falls into streams connected with drinking supply of cities. It

[2] Public Health Rpts. 28, 1913, no. 48, pp. 2530–2534.

[3] *Journal of the American Medical Association*, 60, 1913, no. 11, p. 836.

states that the Pullman Company has already made arrangements for the disposal of sewage when cars stand on sidings in smaller towns waiting to be picked up by through express trains during the night, a fact which promises much for the future. Edward Hungerford, in a recent periodical,[4] says that the Pullman Company attached to its staff some eight years ago Dr. Thomas R. Crowder of Chicago, who is making ventilation and sanitation of railway cars, particularly the disposal of sewage, his life work. He reports, however, that nothing satisfactory has as yet been devised as a holding vessel under the car for sewage. The trouble is to get something that will operate through the extremes of heat and cold. He makes the very good suggestion, however, that while experts are working on this problem, railways be required to floor the bridges over all streams that are even remotely connected with water supplies.

Certainly progress is being made, as is shown by one railroad sterilizing its drinking-water tanks, another spending $46,000 in putting in water tanks in which water and ice do not come in contact, and another spending about $15,000 in putting in tanks that are to be filled from the roof of the car only.

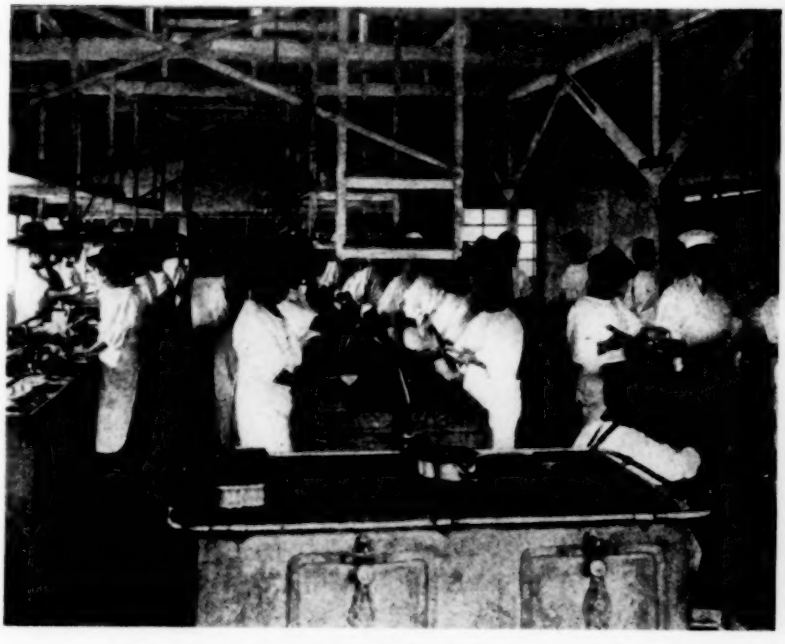
EFFICIENCY OF METHODS OF CLEANING

The sanitary value and efficiency of any method of cleaning depends upon the proportion of dust and bacteria which it removes from the rooms or furniture. Experiments of interest to the housekeeper have been carried out by W. D. Frost and Vermillion Armstrong[5] at the University of Wisconsin which show the percentage of bacteria removed by the ordinary methods of cleaning and by the use of vacuum cleaners. They devised a method for determining the number of bacteria present on a floor by means of sterile gelatin disks, this method giving an accuracy of 99 per cent. The average number of bacteria found upon a dirty laboratory floor was about 76,450 per square inch; upon the garret stairs of a dormitory, about 76,260 per square inch; upon the floor of an ordinary room, about 7520 per square inch; on a stairway which had been recently cleaned, about 440 per square inch; and upon the floor of an exceptionally clean house where a vacuum cleaner had been used for some months, about 540 per square inch.

[4] *Harper's Weekly*, 1914, February 7, pp. 21, 22, figs. 3.

[5] *Jour. Proc. and Add., Nat. Ed. Assoc. U. S.*, 49th ann. meet., 1911, pp. 985–990; *Jour. Inf. Dis.*, 9, 1911, no. 3, pp. 265–275.

The Old Not Forgotten in the New Japanese University for Women: A Lesson in Tea-Making According to Ancient Traditions



In the Women's University at Tokio: A Cookery Class

To get an idea of the relative efficiency of the various methods of cleaning ordinarily used, the number of bacteria on a given area of a dirty floor was determined and found to be about 76,450 per square inch. An adjoining area of the same floor after being rubbed with a dry cloth was found to contain about 1030 bacteria per square inch, while another adjacent area, after being washed with a cloth rinsed out in very hot water, contained about 110 bacteria per square inch. Another neighboring area was washed with bichlorid of mercury (1–1000), then rinsed with sterile water and covered with a jar until dry, when it was found to be practically sterile. The average of the results of four experiments showed that a moderately clean floor contained about 385 bacteria per square inch before and about 90 bacteria per square inch after being swept with an ordinary broom, or an average removal of 77 per cent of the bacteria. While this percentage is large it must be said, in view of the results of other experiments, that a very large part of the bacteria removed from the floor go into the air and in a short time settle upon the floor and before long there are as many bacteria on the floor as before sweeping. Tests made with a patent oil-broom showed that the use of this device increased the number of bacteria on the floors which were very clean, due apparently to the difficulty of cleaning the broom. A reduction of only about 28 per cent of the bacteria was found on floors which had been swept by the aid of a patent sweeping compound.

The efficiency of several types of vacuum cleaners was determined. In the case of the two permanently installed systems tried, one, in which the vacuum was produced by an electric fan, removed about 92 per cent of the bacteria from a dirty floor and 96 per cent from a clean floor; the other, in which the vacuum was produced by a steam aspirator, removed about 72 per cent from a dirty floor and about 79 per cent from a fairly clean floor. Three portable machines in which the vacuum was produced by an electric fan, removed, on an average from 74 to 89 per cent of the bacteria from a clean floor. Two portable machines operated by a bellows gave an efficiency of 77 per cent in the case of a power machine and 57 per cent in the case of a hand-operated machine.

In the permanently installed machines the bacteria and dust are removed from the room entirely, and if the discharge pipe is properly located they cause no further trouble. In the case of the portable machines, however, in all the machines tested, the air was discharged back into the room after being filtered through a bag or some other

device to remove the dust. The experiments showed that the filtering devices would not efficiently remove the bacteria and in many cases they were forced through the bag back into the room, in some instances being thrown a distance of 6 feet. While the greater part of the bacteria present upon the floors are harmless, the portable machines might under certain conditions become a menace to health; for example, when used by traveling cleaners they might be the means of transporting the bacilli of tuberculosis from house to house.

Where the floor is washed with soap and water, rinsed with clean water, and the dirty water thrown into the sewer we have efficient cleaning with removal of the dirt and bacteria from the room. To secure bacteriological cleanliness, however, the floor must be washed with a solution containing some effective disinfectant, as is commonly done in hospitals, public institutions, and sick rooms where there is a possibility that the floors may contain the germs of infectious diseases; but this method is unnecessary in the ordinary house. This sterile condition, however, lasts only for a short time and the process must be repeated at intervals as the floor soon becomes infected again through use.

It must be remembered that the experiments here reported were carried out upon bare floors and while it appears that under these conditions the portable vacuum cleaners are not as efficient as the ordinary methods of cleaning in accomplishing the removal of bacteria, yet they require a much less amount of work. For use on carpeted floors, or upholstered surfaces, and for dusting, while not so efficient as the permanent systems, they are superior to the ordinary carpet sweeper, broom, and duster both as savers of energy and from the sanitary point of view.

The permanently installed systems of vacuum cleaning not only remove entirely the dirt and bacteria which they take from the room, but are much more efficient than the portable machines, since they clean more thoroughly and rapidly. They are much more sanitary than the ordinary methods of cleaning and require less expenditure of body energy. It is hoped that before long all up-to-date apartment houses will have permanently installed systems with pipes in each apartment so that the sweeping and dusting may be accomplished more efficiently and with a much greater saving of labor than that required by the methods commonly used. There is also much need for a medium-priced system operated by electricity or water power

which can be installed in the cellar of the ordinary residence with pipes and connections on each floor. It should be so built as to require little skill in operation.

THE BUYING OF CANNED FRUITS AND VEGETABLES[1]

At present there are no uniform standards in the packing of canned goods, but it is important for the consumer to know whether her 10-cent can of tomatoes weighs 2 pounds and 8 ounces, or only 1 pound and 3 ounces; whether it contains one cup of liquid or two and a third cups; and whether the solid material weighs 11 ounces or 8 ounces. In some examinations of canned tomatoes, of three cans costing each 15 cents, the results were as follows:

Measure of liquid	*Weight of solid fruit*	*Cost of one pound of solid fruit*
15¼ oz.	1 lb. 3½ oz.	$0.123
1 lb. 2 oz.	1 lb.	0.15
12 oz.	1 lb. 11 oz.	0.088
and with two 10-cent cans the results were		
7½ oz.	8 oz.	0.20
1 lb. 2¼ oz.	12½ oz.	0.128

In examining these results it is readily seen that the cost of the can bears no definite relation to the value of the contents. Of two cans each costing 15 cents one contained two-thirds more solid fruit than the other. In the two 10-cent cans one can contained one-half more solid fruit than the other, and in the case of one of the 10-cent cans the cost per pound of solid fruit was 250 per cent of the cost of one of the 15-cent cans.

Although among dealers the sizes of canned goods are designated as 1's, 2's, 2½'s, 3's, and 10's, which undoubtedly at one time referred to the weight of the package, these numbers now have no reference to the weight of the contents, though this fact is not generally known to the consumer. The number 2's can may actually weigh 1 pound and 6 ounces; a number 3's 2 pounds 8 ounces, and a number 10's is above weight if it weighs 8 pounds.

The average consumer knows only whether she is buying a 25-cent can, a 15-cent can, or a 10-cent can of peas. If she buys the larger of two cans at the same price, she does not know which is the heavier; if it be the heavier she does not know until she opens it whether the extra

[1] Compiled from "Canned Foods: Fruits and Vegetables." Florence R. Corbett, Teachers College Bulletin, Ser. 4, No. 12.

weight is due to an excess of liquid, solidity of pack, or excessive weight in can and solder. This sort of buying is extravagant, and may well have some relation to the high cost of living.

Individual consumers and clubs interested in the control of the cost of living could do much to safe-guard the interests of the public by publishing the results of investigations made by themselves of goods sold in their local markets.

The methods for such investigations would be very simple and yet effectual. One or more cans of each brand of food obtainable should be purchased, and the information on the label fully recorded, with the name of the brand. The can should be weighed before opening, note taken of the price paid, and all observations carefully recorded. After the can is opened the contents should be emptied into a sieve, the empty can weighed, the liquid measured, and the solid contents weighed. Such data as these would help the consumer to buy wisely and well if she would be guided by her findings and buy food (solid matter) instead of water (juice); and these tests can be made by any housekeeper.

The housekeeper should, however, be relieved from any such labor by the canner who should adopt uniform standards and labels.

WHAT MATERIALS ARE BEST AND CHEAPEST[1]

It pays to buy part-wool goods when firm and of good color, but not "all-wool" at 39 cents.

It pays to buy all-wool serges or flannels if they are well woven, but these cost at least 50 cents a yard, for 32-inch material. Anything cheaper is thin and easily pulled apart.

It pays to buy good mercerized foulards and mulls in place of cheap silk. They look like silk, are low in price, and in general wash well. Cheap silk is filled with other things that make it wear out quickly.

It pays to buy Indian Head cotton suiting. It looks like linen and wears better than "linen suiting."

It pays to buy good white lawns. They wear well and wash well.

It pays to make at home underclothes and nightgowns of good 9 to 12½ cent muslin but cheap lawns and cambrics are not worth making up.

It pays to buy good, narrow cotton or linen torchon lace for home-made underclothes. Such trimming is strong and inexpensive, but

[1] Extracts from Hints on Clothing. Mary Schenck Woolman, Teachers College Bulletin, Ser. 2, No. 13.

cheap "val" Mechlin and torchon laces and embroideries tear out in washing, and take time to iron.

It pays to buy good, closely knitted stockings. Two pairs of good stockings are better than four pairs of cheap, thin ones, which wear out quickly and are not easily mended. Always buy stockings that are big enough for the feet.

It pays to buy shoes of good leather and good shape. One pair of good shoes is better than two pairs of cheap, thin ones.

Materials often Adulterated or Weak

Muslin filled with starch. The starch washes out and leaves a coarse, poor material.

Wool serges and suiting, 40–50 inches wide, under $1. In all wool they are too thin to wear well; if adulterated with cotton they fade, soil and crease.

Cashmere, 36 inches wide, under 49 cents. Thin, tearing easily and wearing thin, and dye not holding.

Flannels, 30 inches wide, under 25 cents. Not warm enough, mixed with cotton.

Silk in taffetas, messalines and cords, 20 inches wide, under 75 cents. Not strong enough to stand wear, being weighted to seem heavy.

Velveteens, 22 inches wide, under 40 cents per yard, are poorly made with dye or stain stamped on top.

Plush for coats and upholstery. When cheap is made of cotton and will fade and soil quickly..

Blankets, good, all-wool, are at least $4.50 a pair. When made of cotton they are less warm and soil quickly, and are often below standard size.

Towels, size 22 x 14, under 12 cents apiece are likely to be all or mostly cotton.

Fancy cottons with lace stripe.

Outing flannel in bright colors does not hold the color well and sometimes the dye poisons the skin.

Linen dress goods, when inexpensive, do not wear as well as cotton.

TESTING WEIGHTS AND MEASURES

During the last few years the various factors concerned in the cost of living have come very much to the front. An illustration is furnished by the work of one woman's club in the testing of weights and

measures. Twenty-one women undertook, with scales loaned for the purpose by a reliable manufacturing firm, to weigh for two months as much as possible of the food bought for their households. The results were tabulated and brought together. The tests covered several hundred weighings of meat, groceries, fruits, vegetables, and ice in nearly all quarters of a large city. A lecture by the Superintendent of Weights and Measures of a neighboring state had preceded this effort and also an exhibit from the City Comptroller's office of false weights and measures, so that the women were familiar with the subject. It was agreed that in cases of observed dishonesty the facts were to be handed over to the Comptroller's office for investigation without bringing the complainant into the case.

The results were interesting.

First, in the education of the buyer. It was found that many women did not know that in the state where the study was made they could require the weighing as well as the measuring of vegetables and some had yet to learn how many pounds a peck of potatoes should weigh. Emphasis was laid on the necessity of holding in mind the price of food by the pound of edible material. For instance, given cuts of meat must be repeatedly weighed, the edible part separated from bone and trimmings, before the inexperienced buyer learns to make the right mental calculation at the stall, before she realizes that what she has called a cheap cut at 16 cents a pound including the bone may be dearer than the one at 25 cents with little "trimmings," and that the weight of bone in a chicken is proportionately high. She also learns that for the real weight of package cereals the price is much higher than the apparent price, and that the sliced bacon in a 30-cent can may in reality cost 56 cents a pound.

Second, the buyer's general attitude either of trustfulness or suspicion toward dealers becomes more just because put on a better basis of actual fact. She has been told that 5 per cent of the marketmen, grocers and hucksters are dishonest. In the case cited, the results were quite different. Hardly 2 per cent were found to give short weight and this loss was almost balanced by the number of cases reported in which overweight was given. The conclusion drawn was that carelessness rather than intent to cheat was to blame in these instances. Only two instances of evident intent to cheat were reported to the office of weights and measures.

Incidentally, the point was brought out that household half-pint, pint, and quart measures are often defective and that anyone may get scales or measures tested without charge by city authorities.

It was considered of great importance to be brought in closer touch with one of the city departments, as these women were, and to learn of their methods to protect buyers and also to what extent the buyer may coöperate.

QUICK METHODS OF MIXING DOUGH

Several years ago experiments were carried on at the University of Chicago by Miss Wellman who found that much unnecessary time has been spent in cake-making. Cakes were made in two ways; by thoroughly creaming the butter and sugar and then adding the other ingredients; by melting the butter and beating it in after beating the other ingredients. Cakes mixed in the latter way and baked beside cakes of the same proportions mixed in the conventional manner could not be told apart in appearance or taste after baking, although the batter differed in appearance before baking.

Some further work showed that the whole question is one of getting the ingredients thoroughly mixed. In other tests made at the university repeated trials showed that melted shortening could be used in mixing baking powder biscuits if due care was used to beat it in thoroughly; and such biscuits compared favorably, both in texture and tenderness, with biscuits made by rubbing or cutting the shortening into the flour.

It is somewhat difficult to measure exactly the time saved by using melted butter in cake instead of creaming the butter with the sugar, or melted shortening in biscuits instead of rubbing shortening into the flour, for the time necessary for that process varies with the season and with the amounts used; but in these experiments it was found, on the average, to save half of the time required for mixing.

THE FEEDING OF YOUNG CHILDREN[1]

Children's stomachs are not as strong as those of grown people and a child should not eat the same kind of food as an adult, any more than he should wear the same kind of clothes.

Milk is the best food for children of all ages; it contains everything needed to make a child grow, and every child should have at least one quart a day. This need not all be taken as a beverage; it may be used in cooking cereals and vegetables, or in making simple puddings.

[1] Extracts from The Feeding of Young Children. Mary Swartz Rose, Teachers College Bulletin, Ser. 2, No. 10. The prices have been revised to date.

A dish of cereal cooked three hours or more should also be given every day, preferably without sugar. Cereals made from the whole grain, such as rolled oats and rolled wheat, are better body-builders than those with the bran removed, such as farina, etc. Eggs, fruit, and fresh vegetables should form a part of every day's food.

Do not give meat to children under eight years of age if eggs and milk can be liberally provided. For the older children choose meat cooked without fat, as beefsteak, roast beef or mutton, chicken, fish free from fat, such as halibut, haddock, cod. Do not allow children to eat candy between meals. A small piece of pure candy or sweet chocolate may be allowed the older children with dessert for dinner. If children show a distaste for milk, cereals and other plain food, cut down the supply of sweets and other highly flavored food. The cultivation of a rational appetite is an important part of the training of children.

Never give fried food, pastry, hot bread, fresh rolls, or any cake except plain cookies, gingerbread, or sponge cake, and these latter only to older children in limited quantity. Syrups, preserves and nuts (unless ground to a paste) should not be given to children under 5 years old, and to older ones only sparingly. Allow no tea, coffee, beer, lemonade or sodawater. Children over six may drink weak cocoa or cocoa shells occasionally, making the beverage with milk.

Meals for One Day[2]

Child 2–4 Years Old

Breakfast:	Oatmeal mush	0.8 oz. dry cereal
7.30 a.m.	Milk	1½ cups
	Stale bread	1 slice
	Orange juice	4 tablespoons
Lunch:	Milk	1 cup
11 a.m.	Stale bread	1 slice
	Butter	1 teaspoon
Dinner:	Baked potato	1
1.00 p.m.	Boiled onions (mashed)	1
	Bread and butter	1 slice
	Milk to drink	1 cup
	Baked apple	1
Supper:	Boiled rice	1 cup
5.30 p.m.	Milk	¾ cup
	Bread and butter	1 slice

[2] Menus for older children will be given in the June Journal.

Nutritive value and cost

MATERIAL	WEIGHT	PROTEIN	FUEL VALUE	COST
	ounce	*grams*	*calories*	$
Rolled oats	0.8	4.2	100	0.0030
Stale bread	2.0	7.0	200	0.0080
Orange juice	2.0	...	25	0.0150
Butter	0.5	0.1	100	0.0110
Potato	2.6	1.3	50	0.0040
Onion	1.0	0.5	14	0.0030
Apple	2.0	0.2	26	0.0100
Sugar	0.2	...	23	0.0006
Rice	1.0	2.3	100	0.0050
Milk	34.4 (1 Qt.)	32.2	675	0.0900
		47.80	1313	0.1497

Substitutes or additions

For Rolled Oats or Rice: Other cereals, such as rolled wheat, wheaten grits, farina, hominy and corn meal.

For Orange Juice and Baked Apple: Prune pulp or apple sauce.

For Onions: Spinach, strained peas, stewed celery, carrots, or cauliflower tips.

An egg may be added every day, and should be included at least two or three times a week.

These changes will alter the cost somewhat.

SOME OBSERVATIONS ON THE FEEDING OF CHILDREN[1]

Some interesting notes upon the feeding of children are given below, which, although made in a children's hospital, can readily be applied to the home. The chief aim was to give the children good, nourishing food, no attempt being made to economize financially at the sacrifice of nutritive conditions, but the cost was not excessive. The children were being treated for diseases of the bone, due primarily to tubercular infection, but in every other respect they were leading the normal life of the average child, i.e., school in the morning and afternoon, and out-of-door p'ay in much of their spare time.

[1] Compiled from "A Dietary Study in A Children's Hospital," by Mary S. Rose and Harriet C. Jacobson, Teachers College Bulletin, Ser. 3, No. 13.

SAMPLE MENU FOR ONE DAY

Breakfast	Dinner	Supper
Wheatena	Corned beef, potatoes	Scrambled eggs on toast
Bread and butter	Vegetable salad (beets, carrots, string beans)	Cookies
	Apricots and prunes	Milk
Cocoa	Milk	

In calculating the value of the foods furnished, due regard was given to the amount of the mineral constituents furnished as well as to the fuel value. Thus meat and fish cost one-fourth of the total outlay for food, and milk one-fifth, but their real value in the diet stood in the relation of four to five; thus milk is the most important as well as the cheapest food in this dietary. For the same reason grain products have a high score; an equal amount of fuel in the form of sugar would carry with it none of their valuable mineral constituents; the grains, vegetables, and fruits furnished half the total amount of iron.

During the cold months a cooked cereal was served six times during the week, rolled oats being given three out of the six mornings. Once a week a ready-to-eat cereal was served, the greater quantity of milk being used on these seeming to justify their use. During the summer these ready-to-eat cereals are used three times a week in place of the rolled oats. The children seemed never to tire of the cocoa and bread and butter for breakfast.

In calculating the cost in fuel values some interesting discoveries were made in regard to meats. It was found that ribs of beef were cheaper than rump at the same price, and cheaper than corned beef at two and one-half cents per pound less, and this led to the gradual elimination of so-called cheap cuts, except for the sake of variety. It was also found that 25 per cent more of round top steak was consumed than of Hamburg steak, so that the latter, which had been used frequently is now used only for the sake of variety.

Fruit was used liberally in all seasons, and fruit-milk sherbets were served frequently for dinner for the purpose of giving both the fruit and the milk. Milk was given the children freely, and if the customary amount was not drunk it was used in cooking, so that the children got it in one form or the other. More milk was used in summer than in winter, and once a week it was introduced in the shape of milk toast, and once in cream soup. Eggs were used twice a week, at least, for supper.

Realizing that children as a rule do not relish green vegetables, an attempt was made to familiarize them with new flavors by first introducing the vegetables in soups and gravies, and it was found that when once they had become familiar with the flavor it was not so difficult to get them to eat the vegetables alone.

An interesting fact was noticed in connection with the generally accepted belief that children crave sugar in large quantities. It was found that with the cereal slightly sweetened before serving, and the fruits cooked with a very moderate amount of sugar, though very few puddings and almost no cake were used, demands for extra sugar on the table were very rare. The children were allowed to make candy whenever they asked to do so, but strikingly few requests were made. It would seem then, that when children have adequate nourishment in other forms, and do not have temptation in the form of candy put immediately before them, the supposed craving for sugar is not in evidence.

Children respond readily to slight variations in form, color, and even in the number of dishes on the table, and it is perfectly possible to keep their menus simple and with the necessary elements in their proper forms and proportions and yet avoid any sense of monotony.

MAKING LIQUID FATS SOLID

The chemical relation between the solid fats, such as beef suet and mutton tallow, and the liquid fats, such as olive oil and the newer members of the group (cotton seed oil, corn oil, peanut oil, soy bean oil) has long been known to scientists. The difference in composition lies in a higher percentage of hydrogen in the solid than in the liquid fats; the carbon in the solid fats has all the hydrogen it can hold, while that in the liquid fats has not. The former are, therefore, spoken of as "saturated" and the latter as "unsaturated." This is an interesting fact, but it never had any practical importance until some one devised a means of making the liquid fats take up more hydrogen and become solid.[1] This greatly increased the uses to which they could be put in cooking. Some people have always preferred vegetable to animal fats, though it must be said that their preferences were purely personal matters and were not based on the result of scientific investigation. Now these people can have vegetable fats in solid as well as

[1] Pure Products, 9, 1913, no. 2, pp. 101, 102.

in liquid form, and even those who have no scruples about the use of animal fats have a much wider choice than formerly.

The process by which hydrogen is added to oils is known as catalysis. A catalyzer is a substance which has the power to effect unlimited changes in other substances without undergoing any permanent change itself. Hydrochloric acid, for example, may act as a catalyzer. A very little bit of this substance introduced into a hot solution of cane sugar will attack one particle after another and convert it into grape sugar and fruit sugar until all the cane sugar is gone. At the end of the operation the hydrochloric acid remains as it was in the beginning. In the case of the liquid fats the catalyzer is a very small amount of powdered nickel. After this is introduced, hydrogen is run through the fat and the nickel does the work of attaching it to one particle after another of liquid fat which finally changes to a solid fat. That the nickel can be entirely removed after its work is done is indicated by the fact that the chemist of the New Hampshire State Board of Health reports that he examined one of the commonest of these new solid fats, much advertised for culinary purposes, and found not a trace of the metal left.[2]

FIRELESS COOKER

A comparison has been made of gas range, fireless cooker and a combination of the two, as to amount of gas used, labor required, and the results as to appearance and palatability of the food cooked for family use for one day.

The saving of gas in using the fireless cooker after starting the food on the gas stove was from five-ninths to three-quarters of what it cost to cook the food entirely by gas, and the result was pronounced better in taste and appearance while the labor or attention required was greatly reduced. The combination gas stove and fireless cooker effected a still greater saving.

The saving in gas by use of the fireless cooker would amount in 93 days to the price of a fireless cooker, and in 231 days to the price of the combination range and cooker. For details see page 131.

[2] *Quart. Bul. Bd. Health N. H.*, 2, 1913, no. 2, pp. 31, 32.

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"Pure Textile" Bills. *Textile World Rec.*, xlvi, 1914, no. 4. pp. 62–67.

Hints on Choosing Textiles. Bertha E. Titsworth, *Cornell Reading Courses, Lesson for the Farm Home*, ii, no. 45.

[Clothing in relation to] deaths of children by burning, *Jour. Am. Med. Assn.*, lxii, 1914, no. 1, p. 46. (Statistics are discussed which show that due to the different type of clothes more young girls are fatally burned than boys.)

A Canning Business for the Farm Home. Claribel Nye and Bessie E. Austin, *Cornell Reading Courses, Lesson for the Farm Home*, ii, no. 47.

Social Pediatrics. I. S. Wile, *N. Y. State Jour. Med.*, xiii, 1913, no. 11.

The Problem of the Institutional Infant. H. L. K. Shaw. *Am. Jour. Pub. Health*, iii, 1913, no. 3, pp. 1100–1103.

The Detection of Anthrax Spores in East India Wool and in Yarn Manufactured Therefrom. P. L. Southerland, *Jour. Hyg.* [Cambridge], xiii, 1914, no. 4. pp. 403–408.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS at the price listed.

Shelter and Clothing: A textbook in the Household Arts. By Helen Kinne and Anna Cooley of Teachers College, Columbia University. New York: The Macmillan Company, 1913, pp. 377. $1.10. By mail of the Journal, $1.20.

This book which is especially adapted for high schools fills a long felt need in putting before those interested in the practical education of girls, the first adequate text-book on the subject of Household Arts, a book, moreover, which handles the subject in its broadest aspect.

The book is divided into two parts, part one dealing with the home. Certainly no book could have a more charming introduction than the first chapter, which describes what the ideal home, or family life lived within the house, should be.

House planning, heating, ventilating and lighting are discussed in a practical and not too technical way, for it is evidently not the intention of the authors to give an exhaustive treatment of these subjects, but rather to merely open them up so that the students may see the relation to their own immediate surroundings.

The chapter on water supply and disposal of waste is concise and definite, and easily applicable to the systems in small towns.

The treatment of the decoration of the home and its furnishing is particularly fine, and will afford ideas to clever teachers for developing instruction along some particular line, and for correlating with other departments.

Part two has three sub-divisions—Textile Materials and How They Are Made, Sewing and Garment Making, and Dress. In dealing with the textile fibers and their manufacture, the usual technical and mechanical matter is presented in a way that can be clearly understood. Especially good is the comparison of the different fibers and the simple methods of distinguishing between them.

Under sewing there is a discussion of the relative merits of hand and machine sewing and the conditions under which some ready made underwear is produced.

Several chapters deal in a thorough and practical way with the hygiene and economics of clothing, and with its care, repair, and renovating.

In the chapters on millinery and the making of dresses some of the descriptions would have been clearer if the illustrations had been more adequate.

On the whole, the book is a store-house of excellent suggestions for the teacher as well as a most interesting text-book for the student and reference book for libraries. It contains, moreover, much material which would make it an unusually helpful handbook for the young home maker.

Textiles: A Handbook for the Student and Consumer. By Mary S. Woolman and Ellen B. McGowan. The Macmillan Company, 1913, pp. 427. $1.80. By mail of the Journal $1.92.

This book will receive a welcome from students of household arts throughout the field. Professor Woolman has put into this book the results of her twenty years experience in teaching textiles at Teachers College and she has been most ably assisted by Mrs. McGowan, an instructor at Teachers College, who has made a special study of textile chemistry. The result is a book which covers the textile field in its relation to the teaching of household arts more completely than any previous work.

After an opening chapter on the beginnings of the textile industry and chapters on spinning and weaving, the first half of the book is devoted to a study of the leading textile fibers, their cultivation, preparation, and methods of manufacture. These points are taken up in a thoroughly systematic manner; there are many illustrations and these, with the careful explanations of the mechanism of the complicated textile machinery will make it valuable to the teacher and student. At the close of each of the chapters on cotton, silk, wool and flax is a list of the standard materials, their prices and widths.

The latter half of the book treats the subject from a more comprehensive point of view and will prove a boon to the one who is endeavoring to teach textiles from a broader outlook. A chapter called Consumer's Judgment of Textiles dwells on the need for knowledge of values on the part of the consumer and gives hints helpful to every shopper. Three excellent chapters follow, dealing with the chemistry of textiles, the testing of different materials to determine the adulterations; the use of the microscope in judging the quality of the fibers; and a study of the principles of dyeing. The laundering of the different textiles is also discussed and a chapter on Hygiene of Clothing gives some important points on the relation of clothing to cleanliness and health. Some economic and social aspects and a chapter on Clothing Budgets complete the book and show how thoughtful of service the authors have been in considering the subject of woman as a textile consumer and in obtaining data from homes, stores and factories in order that some knowledge may be available on which to base needed conclusions and form definite standards.

Students of household arts who have had the privilege of studying with Mrs. Woolman will appreciate the organization of this valuable material, formerly gained through her lectures. The book may be used as a text book for college classes and will eventually help to place the teaching of textiles on a sound basis with other subjects in a college curriculum.

Old Italian Lace. By Eliza Ricci. London: Heinemann, 1913. Folio. Vols. I, pp. 434; II, pp. 284. Illustrated. 126 shillings. Rev. Illus. London News. [Amer. Ed.], 53, 1913, no. 1386, 824; Sup. pp. II, III.

The evolution of lace is due, the author says, to the fact that Italian ladies sometimes near the beginning of the sixteenth century took to wearing washable underlinen and had to have it suitably decorated.

The author insists that, unlike the older craft, embroidery, lace making did not come from the East but from Venice. The book is beautifully illustrated with reproductions of portraits, etc., showing lace.

According to the review referred to, "the first volume of Signora Ricci's work

deals with needle work lace. She shows it by several pleasantly written essays, and through a magnificent series of photographs from actual examples, taking its course from the first pale phantom which appears in a Gozzoli fresco, a mere bead-work between seams; becoming transparent in the drawn-thread work; richly interesting in the *reticello*, when the worker began to cut the linen away in definite spaces; and achieving its supreme note in *punto in aria* (stitch in air), the needle at last following superbly the pencil of Renaissance artists over ornament instinct with pagan grace and mediaeval romance. It is a gorgeous progression which the author invites amateur and connoisseur alike to witness. The second volume treats of bobbin-made lace in Italy; the provincial dialect, as it were, of the classic expression of the needlework lace. It may be seen in the best period of *punto in aria* . . . . . Genoa and Milan rival Venice at this less personal but still beautiful art. And Hals and Rubens may be accounted its pictorial historians. . . . . Nothing is more interesting in this Italian study than the glimpse of the French spirit which owed its chance to Colbert, Louis the Fourteenth's great minister. The fragile grace of Alençon breaking through the stately dignity of Venice is written in the curious and most elegant language of lace. 'Old Italian Lace' must certainly become 'acknowledged literature' of the art."

Cooking by G. A. S. Compiled by Miss Helen Edden. Edited by Mrs. M. A. Cloudesley Brereton. The British Commerical Gas Association [n. d.]. Pp. 126, figs. 20.

A large part of this book is devoted to recipes. The most original section, however, is that which concerns the choice of utensils for use for the gas stove and general directions for using this fuel. While the directions in general will have more point in places where gas is not so commonly used as in the United States, there are some suggestions which are novel even here and will be welcome. A number of sample menus are included.

The New Cookery. By Lenna F. Cooper. Battle Creek, Michigan: Good Health Publishing Company, 1913, pp. 9, 298, pls. 5, Price $1.50. By mail of the Journal, $1.60.

By "new cookery," the author means apparently the attempt to prepare, without the use of flesh foods, appetizing dishes which lead to a moderate as well as a low proteid diet. Milk, cheese (Neufchatel or similar type), and eggs are included in the food materials called for by the recipes, as well as commercial articles designed by the manufacturer as meat substitutes or as seasoning, etc.

From the introduction it would seem that the author shares the belief sometimes stated that chronic diseases are due to a faulty diet and by implication to the use of a high proteid diet, particularly one containing flesh foods, or that such diseases are curable by diet. References are also made to certain other dietary theories and conclusions as if they were definitely established facts. The author has realized, as is too seldom the case in works on lacto-vegetarian and related cookery, that savoriness is an important part of food preparation, and the result is a collection of recipes (and recipes make up the bulk of the volume) in which this matter has received special consideration. Dependence is placed on onions, celery, and other seasoning vegetables, on fruits and fruit juices, lemon juice, sugar, and some specially manufactured products for seasoning, spice being mentioned in only a few of the

recipes, and no use being made of such common seasonings as pepper, paprika, sweet green peppers, or pimientos.

In the section on meat substitutes and entrées, special reliance is placed on commercial preparations designed as meat substitutes, on nuts, and on dried legumes, and very few of the many possible savory dishes which contain milk, eggs, Neufchatel cheese, etc., as their principal protein constituent are included.

A peculiarity of the recipes is the use of definite amounts of concentrated hydrochloric acid and soda in place of an equivalent amount of baking powder. Concentrated hydrochloric acid being a chemical used in the laboratory with caution, it would seem the part of wisdom to keep it out of the kitchen or, if hydrochloric acid is recommended at all, to use a dilute form.

Besides the recipes, the volume contains brief discussions of cookery, cooking processes, fire and ranges, and similar topics, and a collection of menus for breakfast, dinner, supper, and luncheon, and for special occasions. The menus contain no flesh foods and are described as "balanced," the term apparently implying made up in such a way that low proteid foods predominate in the day's ration. Though it would not be possible to calculate this from the data in the book, it may be that it is also the author's belief that the energy value of the menu would be such that the ratio of protein energy to the energy of the rest of the diet would be in accord with some dietary standard, and so "balanced," for it is of course to such a ratio that the term "balanced" should be applied technically.

The book is well written and well edited, and has illustrations which are a help in suggestions as to pleasing service besides adding to the attractiveness of the volume.

Raisins, Figs, and Other Dried Fruits and Their use. By C. F. Langworthy, U. S. Dept. Agr. Yearbook 1912, pp. 505–522.

Information is summarized regarding the preparation and use of dried and evaporated fruits, including apples, pears, prunes, peaches, apricots, cherries, raisins, figs, citron, dates, and others; the food value of dried fruits; ways of using them; and similar topics. The great importance of the American dried fruit industry is spoken of.

The bulletin points out that whether used by themselves as substitutes for fresh or preserved fruits, or mixed into cakes, puddings, confectionery, and other dishes, dried fruits offer a wholesome, nutritious, and economical way of securing variety in the diet, and are especially useful where the supply of fresh fruits is limited, or where storage space for fresh fruits is lacking.

The Nature of Tea Infusions. By H. L. Smith. Lancet London, 1913, I, no. 12, pp. 844, 846.

This article reports and discusses data regarding the combination of the caffein and tannin in tea infusions.

"In the hot tea infusion it may be concluded that caffein and tannin occur considerably hydrolyzed and in the free state."

Experimental methods are described.

Book of Recipes for the Domestic Science Department of the Altoona High School. By Zitella Wertz. Altoona, Pa.: 1913, pp. 85.

A collection of recipes with blank pages for notes.

Suggestions for Diet Kitchen Equipment. By S. Wierzbicki. U. S. Naval Med. Bul., 4, 1910, No. 2, pp. 161–163, dgms. 2.

A kitchen from which regular meals are to be distributed and in which light food can be prepared for patients and cooking done by a nurse for patients requiring nourishment between regular meal hours must serve "as a central distributing station for food brought from the main kitchen; as a place where food can be prepared for patients requiring nourishment between meal times; where staple articles for preparation of light diets are kept; and where ice is on hand for ward uses."

The author describes in detail the equipment which has been planned to meet these requirements for the men's infirmary diet kitchen at the United States Naval Hospital at Las Animas, Colo., which includes an electric kitchen cabinet, steam table, ice box, and food trucks with trays.

A ground plan is provided of the diet kitchen which shows what the author considers the most convenient arrangement of the stationary kitchen equipment. Various special devices are described.

Concerning Heat Conductivity of Floors of Different Kinds. By F. Eichbauer. Gsndhts. Ingen., 35, 1912, No. 48. Abs. in Hyg. Rundschau, 23 ,1913, No. 20, pp. 1276,1277.

When an animal body touches the floor, heat is lost by conduction. Since the contact is usually brief, the amount of heat given off depends less on the conductivity of the whole floor material than on that of the upper layers. It is only when the contact is prolonged that the nature of the lower layers comes into question.

The amount of heat carried away by the floor depends on the smoothness of the floor surface and on the material of which it is made. A rough floor has less conductivity than a smooth one, which explains the agreeable effect of cocoa matting on stone floors.

In order to compare various materials, a smooth cement floor was chosen as standard and its conductivity rated as 1. The higher the figure in the comparison, the lower the conductivity of the floor in question. The following values were found for the more important materials: Asphalt, 0.65; "terrazzo," 0.79; earth floor, 1.18; "dörrit," 2.01; linoleum on cement, 1.19 to 1.44; cork tiling, 2.15 to 2.39; parquet, 2.60 to 2.83.

Exhibiting, Classifying and Judging Homemade Horticultural Products. By J. B. S. Norton. Hyattsville, Md: 1913, pp. 32. $0.25. 5 copies, $1.

This study by Professor Norton, of the Maryland Agricultural College, of exhibits of homemade fruit products, is perhaps the most important contribution so far made to the problem of the use of score cards in Home Economics. Professor Norton has had several years' experience as a judge in handling such exhibits and he has been at pains to collect the experience of the various horticultural societies, colleges and other organizations which organize exhibits. His pamphlet discusses the preparation of an exhibit, methods of display, management, a classification of fruit products in some twenty groups with definitions, exhibitor's rules, judge's rules, scoring and score cards, educational features, and suggestions as to the preparation of fruit products.

Influence of Vegetables Greened with Copper Salts on the Nutrition and Health of Man. By Ira Remsen et al. U S. Dept Agr. Rpt. 97, pp. 461.

This report of the Referee Board of Consulting Scientific Experts presents in detail and discusses the experimental data obtained in the four series of investigations, namely "Action of Coppered Vegetables on the Health and Nutrition of Man," A. E. Taylor; Pp. 9–208.; "Investigations of the Effects of Foods Containing Copper Compounds on the General Health and Metabolism of Man, J. H. Long; Pp. 209–430; "Absorption and Distribution of Copper when Coppered Vegetables are Eaten," R. H. Chittenden, Pp. 431–448; and "Histological Examination of the Tissues of Dogs and Monkeys," T. Smith, pp. 449–461. From a study of these four reports the Referee Board reached the following conclusion:

"Copper salts used in the coloring of vegetables as in commercial practice can not be said to reduce, or lower, or injuriously affect the quality or strength of such vegetables, as far as the food value is concerned.

"Copper salts used in the greening of vegetables may have the effect of concealing inferiority, inasmuch as the bright green color imparted to the vegetables simulates a state of freshness they may not have possessed before treatment.

"In attempting to define a large quantity of copper, regard must be had to the maximum amount of greened vegetables which might be consumed daily. A daily dose of 100 grams of coppered peas or beans, which are the most highly colored vegetables in the market, would not ordinarily contain more than 100 to 150 milligrams of copper. Such a bulk of greened vegetables is so large, however, that it would hardly be chosen as a part of a diet for many days in succession. Any amount of copper above 150 milligrams daily may therefore be considered excessive in practice. A small quantity is that amount which, in the ordinary use of vegetables, may be consumed over longer periods. From this point of view, 10 to 12 milligrams of copper may be regarded as the upper limit of a small quantity.

"It appears from our investigations that in certain directions even such small quantities of copper may have a deleterious action and must be considered injurious to health.'

How I Kept my Baby Well. By Anna G. Noyes. Baltimore: Warwick and York Pp. 193. $1.25. By mail of the Journal, $1.30.

Mrs. Noyes' little book gives to the public a good working plan for keeping an exhaustive record of a baby's life for its first two years.

There is much to be commended in this effort to show young mothers how much may be accomplished by jotting down a part of what every careful mother notices and too often forgets when the knowledge of it would be useful. Mrs. Noyes' methods were her own but she worked under the advice of her physician. This fact is frequently noted and yet it might have been well had she more distinctly warned the young mother attempting to copy her methods that she must not substitute her own conclusions and treatment for skilled advice. It is rarely safe to assume that any symptom comes from a probable cause unless possible causes have been eliminated by examination.

The record-keeping although it may seem to some unnecessarily detailed, is very careful and the book is both interesting and valuable.

Nerve Waste. By George VanNess Dearborn, M.D. Boston: Health Education League, 1913, pp. 29. Price 7 cents, $4.50 per 100.

Health of the School Child. By Robert W. Hastings, M.D. 1913, pp. 24. Price 6 cents, $3.75 per 100.

These two pamphlets are the most recent of the Health-Education series.

In "Nerve-Waste" the plan is to present the credit and debit sides of our nerve-force. The value of sleep, adequate nourishment, and suitable work is shown on the one side and the effect of worry, disorder, monotony, and over-stimulation, on the other.

"Health of School Children" was written to call attention to, and offer suggestions for the prevention of, the many handicaps, in the way of physical ills, with which most school children have to contend.

Common Diseases. ByWoods Hutchinson, A.M., M.D. Boston and New York: Houghton Mifflin Company. The Riverside Press Cambridge, 1913. $1.50. By mail of the Journal, $1.62.

Dr. Woods Hutchinson interests, entertains, and instructs regarding many of the common diseases which are and some which are not. He always writes with frankness, with humor and with joyous versatility. At times in the desire to be pleasant, to give encouragement, or to inject hope, statements occur which are not directly in accord with the accurate records of fact. It is scarcely true, for example, to suggest that the person with adipose tissues in middle life has at least "a ten to twenty per cent greater chance of survival to a good old age than the thin, spare and nervous one." In considering the liver, he has assumed much that is unproven and building upon this has built up a large field of hepatic influence which makes good reading regardless of its scientific basis.

The topics covered represent many of the contributions which have appeared in journals but the compilation is most excellent and includes, among others, Dyspepsia, Catarrh, our National Nasal Luxury, Asthma and Hay Fever, The Unwisdom of Worry, Insomnia and Insomniacs, Imaginary Diseases and their Inventors, and The Prevention of Old Age.

The current of good nature that pervades his writings carries the reader along so that he may view with equanimity the verbal scenes the writer offers. Shams are attacked, charlatans are opposed and insanity and inanity are thundered against. It is unfortunate that so powerful a writer, one who stands out in the public eye as a speaker, a lecturer, and an author should at times appear to sacrifice accuracy for effect or give the impression of seeking to gratify lay whims at any cost. This is particularly regrettable because his volumes are popular among those whose familiarity with the essential underlying facts must necessarily be limited. If the literal values were as great as the literary values, criticism save of an appreciative nature would be almost impossible.

Country Life Conveniences and Enjoyments. Edited by H. M. Skinner and A. L. McCredie. Library of Agriculture, Chicago, 1912, vol. 8, pp. 502, figs. 61.

This book is made up chiefly of reprints of farmers' bulletins of the United States Department of Agriculture.

BOOKS RECEIVED

Practical Dietetics. By Alida Frances Pattee. Mt. Vernon, N. Y.. A. F. Pattee. $1.50. With Handbag Diet Book, $1.75.

Food and Household Management. By Helen Kinne and Anna M. Cooley. New York: Macmillan and Company. $1.10. By mail of the Journal, $1.22.

Simple Garments for Children. By M. B. Synge. New York: Longmans, Green and Company. Patterns 10, $1.25. By mail of the Journal, $1.30.

How to Cook in Casserole Dishes. By Marion H. Neil. Philadelphia: David McKay. $1.00. By mail of the Journal, $1.10.

Markets for the People. By J. W. Sullivan. New York: Macmillan and Company. $1.25. By mail of the Journal, $1.35.

A Self-Supporting Home. By Kate V. St. Maur. New York: Macmillan and Company $0.50. By mail of the Journal, $0.58.

Low Cost American Homes. By Fred. T. Hodgson. Chicago: Drake and Company. $1.00. By mail of the Journal, $1.10.

The Cost of Living. American Academy of Political and Social Science. Philadelphia, 1913. Paper, $1.00 Cloth, $1.50. By mail of the Journal, $1.10 or $1.60.

Modern Cities. By Horatio Pollock and William Morgan. New York: Funk and Wagnalls Company. $1.50. By mail of the Journal, $1.62.

Sanitation Water Supply and Sewage. By William Paul Gerhard. New York: Van Nostrand Company. $2.00. By mail of the Journal, $2.15.

Disposal of Household Waste. By William Paul Gerhard. New York: Van Nostrand Company. $0.50. By mail of the Journal, $0.54.

Flies and Mosquitoes. By William Paul Gerhard. New York: Van Nostrand Company. $0.25. By mail of the Journal, $0.27.

Rearing an Imperial Race. By Charles E. Hecht. London: The St. Catherine Press. 7s. 6d.

Young Working Girls. By Robert A Woods and Albert J. Kennedy. Boston: Houghton Mifflin Company. $1.00. By mail of the Journal, $1.08.

Vocations for Girls. By E. W. Weaver. New York: The A. S. Barnes Company. $0.75. By mail of the Journal, $0.80.

The Vocation of Woman. By Archibald Coloquhoun. New York: Macmillan and Company. $1.50. By mail of the Journal, $1.60.

A Survey of the Woman Problem. By Rosa Mayreder. New York: George H. Doran Company. $1.50. By mail of the Journal, $1.62.

Financing the Wage-Earner's Family. By Scott Nearing. New York: B. W. Huebsch. $1.25. By mail of the Journal, $1.30.

Medical Inspection of Schools. By Luther H. Gulick, M.D., and Leonard P. Ayres, Ph.D. New York: The Survey Associates. $1.50. By mail of the Journal, $1.62.

Social Work in Hospitals. By Ida M. Carmon. New York: The Survey Associates. $1.50. By mail of the Journal, $1.58.

NEWS FROM THE FIELD

Greater New York Home Economics Association

The annual meeting and luncheon of the Home Economics Association of Greater New York was held January 24, 1914. Only about fifty were in attendance as the weather was most unfavorable.

The speeches were short and very informal. Mrs. Walter L. Hervey spoke on "The Training of Girls in Norway." Mrs. Hervey's visits to typical Norwegian homes made her talk full of close personal touch. She commended most strongly the close companionship of mother and daughter and the helpful spirit of the Norwegian mother toward the teacher of Home Economics in the schools.

Miss Laura Drake Gill outlined briefly the educational ideals and policies upon which she is organizing the Home Economics work in the University of the South. The happy combination of college education and general preparation for a vocation will be most pleasing to those interested in the Home Economics field.

Miss Isabel Ely Lord spoke briefly emphasizing the need for devising schemes for raising money for the Ellen H. Richards Fund.

The results of the annual election of officers were as follows: President, Miss Cora M. Winchell; First Vice-President, Miss Meriel Willard; Second Vice-President, Dr. B. R. Andrews; Secretary-Treasurer, Miss Florence E. Winchell, 176 Elm Avenue, Mount Vernon, New York; Executive Committee, Mr. Bailey Burritt; Nominating Committee, Miss Ruth Atwater, Miss Emilie C. Pratt, Miss Ikelheimer, Miss Kalbfleish, and Miss Jane Fales.

New England Home Economics Association

A general meeting of the Association was held January 31, in the High School of Practical Arts, Roxbury, Massachusetts.

After the business meeting the subject, "How the School Meets the Needs of the Home," was discussed by Mrs. Ripley, Assistant Superintendent Boston Public Schools; Miss McComkey, Public Schools, Springfield, Mass.; Miss Comstock, Professor of Home Economics, Amherst Agricultural College; and Mr. Weaver, Principal Practical Arts High School, Roxbury. Several other speakers described the work of continuation, part-time and trade schools. The building was open for inspection from 10 a.m. to 3 p.m. Luncheon was served by the pupils, after which there was a general discussion. Secretary, Lillie C. Smith, Brookline High School, Brookline, Mass.

Michigan Home Economics Association

A meeting of the Executive Board of the Michigan Home Economics Association was held at the Michigan Agricultural College, East Lansing, on the afternoon of November 22, to discuss the matter of the program and the place of the next annual meeting.

The following tentative program was decided upon: "Women as Wage-Earners," Dr. Sophonisba P. Breckenridge, of the Chicago University; "The Training of Hospital Dietitians," Dr Reuben Peterson, Head of the Medical Department of the University of Michigan; "Report of the Work in Home Economics by the Michigan Federation of Women's Clubs," Mrs. McIntosh, Chairman; and "Outline of a Course in House Decoration as Worked Out at the Michigan Agricultural College," Mrs. L. D. Peppard, of Michigan Agricultural College. Miss Lauretta Morrissey was appointed chairman of a committee to make a survey of domestic science taught in the high schools of Michigan, to be given at the annual meeting in May. The Secretary was instructed to invite Miss Zoa Wimple, State Inspector of Foods, Washington, a former student at the Michigan Agricultural College and a graduate of the Household Arts Department of the Michigan State Normal College, to send an outline of the work covered by her office with suggestions for some organized work in Michigan.

The place of the annual meeting was not definitely decided upon, but the feeling of the Executive Board was that the invitation of Detroit should be accepted and that there should be three sessions, beginning Friday evening and closing Saturday afternoon.

Another meeting of the executive committee of the Michigan Home Economics Association was held in Ypsilanti, early in March. The committee was invited to visit the Household Arts Department of the Normal College, especially the class preparing the daily luncheon for one hundred pupils of the Training School, and the class in invalid cookery serving the food to the sick students in charge of the college nurse in Health Cottage, a new infirmary on the campus. The latter class has made a week's menu for the Ypsilanti Anti-tuberculosis Association which the association has had printed and copyrighted for sale at five cents a copy to those interested in the feeding of tubercular patients. Secretary, Mrs. M. H. French, Ypsilanti, Mich.

Iowa Home Economics Association

The annual meeting of the Iowa Home Economics Association was held in Des Moines, November 6 and 7, 1913.

The first session was on Thursday afternoon in the Y. W. C. A. building, with Miss Knowles presiding.

The program was carried out as planned. Most interesting as well as helpful addresses were given by Miss Schermerhorn, Iowa State College; Prof. Ruth Wardell, Iowa University; and Mrs. E. B. Wilson of Jefferson.

Following the last address an opportunity was given to view the beautiful collection of pictures that was presented by Mrs. Wilson.

A reception was then given to the members and friends, by the Home Economics teachers of Des Moines. This was much enjoyed by every one present.

The program Friday morning included some excellent addresses. All were glad to hear Mr. Mahannah, State Inspector of Home Economics in High Schools,

talk on "Home Economics in Relation to Normal Training in High Schools." Miss Grimsby of the Municipal Courts of Chicago gave a most interesting talk on "Some City Problems which Home Economics Should Help to Solve."

Following this a very helpful question box was conducted by Miss Young of Cedar Falls and Miss Tidd of Des Moines.

At the close of the program the annual business meeting was held, at which the following officers were elected for the coming year: President, Miss Katherine McKay, I. S. C., Ames, Iowa; Vice-President, Miss Alice Heinz, Waterloo, Iowa; Secretary and Treasurer, Mrs. Marian Barr, Des Moines, Iowa; Representative Councilor, Miss Ruth Wardell, S. U. I., Iowa City, Iowa.

Grand Rapids Home Economics Club

The Home Economics Club has held regular monthly meetings during the year and has been making a study of local conditions—Michigan child labor laws, the new housing code and clean food. Richards Day was observed with an informal program and the club voted to contribute ten dollars to the Memorial Fund.

The club members are largely professional people, therefore it is their plan to concern themselves with subjects of vital interest to the homemakers. They are affiliated with the larger women's clubs of the city who are willing to continue any work outlined by the Home Economics Club, such as city inspection of milk and meat and the clean food campaign. Secretary, Mrs. Elizabeth Slaght, 5 Mt. Vernon Avenue, Grand Rapids, Mich.

Indiana Home Economics Association

The Indiana Home Economics Association held their annual convention in January at Purdue University, Lafayette, Ind. The convention was largely and enthusiastically attended by about 400 women. The line of work adopted for the current year is "modernizing the farm home." Special effort is to be made to form "Door-Yard and Garden Clubs" among boys and girls. The association asks the help of both men and women who are interested in the movement for better living and happier homes. The officers are glad to answer letters, suggest plans for local organization, and furnish a list of useful bulletins. Secretary, Mrs. Lewis Taylor, Newburgh, Ind.

Ohio Home Economics Association

The annual meeting of the Ohio Association was held in Townsend Hall, Ohio State University, February 12–14.

The program included school visiting, and discussions of vocational work, domestic art, domestic science, household bacteriology and similar subjects, in regard to their proper presentation in class.

The committee in charge felt gratified in securing as speakers, wide-awake workers who brought much that was helpful from their own experiences.

In arranging the topics, the association anticipated the time in the near future when a uniform course of study in Home Economics will be adopted for Ohio. Secretary, Lana Bishop, Technical High School, Cleveland, Ohio.

Connecticut Home Economics Association

The Home Economics Association of Connecticut held its regular business meetings as usual in May and October of the past year. There was a good attendance at both of these meetings which were most interesting and helpful. A great increase in membership is shown. Secretary, Leda G. Prindle, 5 Adelaide Street, Hartford, Conn.

The University of Nebraska Household Arts Club

The Household Arts Club of the University of Nebraska hold a meeting once each month at which time topics of interest are selected for the program. The December meeting consisted of a memorial program for Mrs. Ellen H. Richards and at the January meeting letters were read from most of the former members of the club.

During the week of Organized Agriculture in January the Home Economics Department of the University offered short courses in Domestic Science and in Domestic Art in the forenoons and in the afternoons the Home Economics Association of the state held its meetings. Interesting talks were given on the Better Babies Movement, Pure Food Laws of the State, and Boys and Girls Club Work in Nebraska. During these meetings an effort was made to increase the collection of heirlooms and curios for the Department of Home Economics.

Homemakers' Conference

The Department of Home Economics at Cornell University conducted a Homemakers' Conference during Farmers' Week, February 9 to 14. For several years a large number of women have been at Cornell during Farmers' Week. Lectures and demonstrations have been presented on the subjects of foods, sanitation, household art, and household management. This year lectures were given by members of the department staff, and by outside lecturers from the Department of Agriculture, from Simmons College and elsewhere. Throughout the week there were exhibitions of work done by the regular students of the department. An extension school was conducted during five days of the week for residents outside of Ithaca who wished to take courses in food preparation. The food laboratories in the Home Economics Building were used for this purpose.

Organizations especially interested in Home Economics made the Home Economics Building their headquarters during Farmers' Week. Opportunity was given for meetings of different organizations having under consideration domestic science or subjects pertaining to home life.

Home Economics Week

The lecturers for the Home Economics Week, February 9 to 13, at the University of Texas were representatives from the National Consumers League, Medical School, University of Illinois, Columbia University, and the faculty of the University of Texas.

The week was given up to exhibits, lectures and demonstrations dealing with social problems such as recreation, working hours of women and children, the high cost of living, wages and morality, modern dress, hygiene, community sanitation; school problems in regard to the school luncheon and the teaching of various branches of Home Economics; and home problems such as marketing, the serving of food, the family table, labor-saving devices, and house decoration.

The educational exhibit illustrating the various phases of Home Economics was open to the public each day throughout the week in the Domestic Economy Building. The faculty of the department were at home in the building every afternoon from four to six to meet the Home Economics visitors, and to explain fully the nature of the exhibits.

Home Makers' Conference

The seventh annual meeting of the Missouri Home Makers' Conference, which met at Columbia, January 13–16, was one of unusual interest. Reports were given from the Farm Congresses at Tulsa and Ghent, and from contests and clubs all over the state. Other features were: babies' health contest and exhibits of farm and home products, judging being done in each case by score cards; demonstrations by boys' and girls' clubs; and marching, games and dances by the children of the University Elementary School.

Home topics were discussed, such as "Courtesies in the Home," "Influence of Good Music and Pictures in the Home," "Training of Children," and "The Relation of the Home to the School."

There were also special meetings for those interested in poultry raising and dairying. One session was held in conjunction with the Rural Life Conference.

Home Science Institute

The first Institute for Teachers of Home Science was held at the Industrial Institute and College, Columbus, Mississippi, in February, 1913. This was so well attended and resulted in such renewed enthusiasm, both for the visiting teachers and for those at the college, that it was decided to make this Institute a permanent feature of the school year.

In the February Institute for 1914 the general object of the meetings was a discussion of what a well defined course in Home Science should embrace. The planning and decoration of the home was studied and concrete illustrations given at the new practice home, "Kanahoah."

The industries of the home, such as cooking, sewing and gardening, were discussed in lectures and round tables.

Men and women prominent in the work gave us their ideas of the educational significance of the Home Economics movement.

All teachers of Home Science in Mississippi were invited to be present. Arrangements were made for their accommodation in the College Dormitory.

Richards Day at Albany

Omicron Nu, the senior honorary society, for the promotion of Home Economics of the New York State Normal College at Albany, New York, had the exercises in charge for the observance of Home Economics Day in this city. The society was especially fortunate in having Miss Anna M. Cooley of Teachers College, Columbia University, as the chief speaker on the program. Her subject was "Personal Recollections of Mrs. Ellen H. Richards," a theme which she was peculiarly fitted to present to us on account of her intimate associations with Mrs. Richards.

Besides several musical numbers a short talk on the origin of Home Economics was given by the President of Omicron Nu. An informal tea and reception followed the program, and those present had the opportunity of personally meeting Miss Cooley, as well as many leaders of the Home Economics movement in the Albany schools. Secretary, Abby C. Franklin.

Richards Day at Mills College

A class of twelve students at Mills College, Cal., made and boxed thirty-five pounds of candy December 2 and sold it December 3, after a short meeting to commemorate the day. The total receipts, $11.65, were added to the Richards Memorial Fund. At present, students numbering seventy are registered in classes in the Home Economics Department, and about half as many more are taking the chemistry which is a prerequisite to cooking. This is a 9 per cent increase over the registration of a year ago and the outlook is encouraging.

Teachers College Lectures

Five open lectures on school feeding were given at Teachers College, Columbia University, during February and March by Miss Alice C. Boughton, Superintendent of the Philadelphia Elementary School Lunches. The lectures covered the details of organization and management of meals, and the educational advantages of school feeding, as well as the professional opportunities which it offers.

All interested were invited to attend, and a brief discussion followed each lecture.

Fraud in Commodities

Several bills are before Congress regarding "fraud in commodities in interstate commerce." Hearings are being held and the evidence published. All persons who are interested in the economics of purchasing should secure copies of the hearings through their congressman, or through Hon. Francis Lindquist, U. S. House of Representatives, who is the author of one of the bills. Textiles, shoes, and watches have already been the subjects of inquiry.

The National Conference on Race Betterment

Four hundred men and women of national prominence shared in the sessions of the National Conference on Race Betterment held in Battle Creek, January 8–12.

Broadly divided, the considerations of the conference were eugenics and euthenics. The latter word, aptly coined by Mrs. Ellen H. Richards was heard as frequently in the conference deliberations as that newer definition of the science of being well born—eugenics.

No attempt was made at this conference to formulate a eugenic or euthenic creed, but the various addresses go to show that the mass judgment of the conference is that in addition to being eugenically born, the individual, to attain physical and mental perfection and his completest usefulness, must also be euthenically reared. Simple, every-day matters of diet, household cleanliness and other phases of domestic economics were discussed by the conference.

An interesting address was delivered by Mrs. Melvil Dewey, of the American Home Economics Association. Among other things, Mrs. Dewey said: "Euthenics is the name proposed by Mrs. Ellen H. Richards for the preliminary science on which eugenics must be based; it seeks to emphasize the immediate duty of man to better his conditions by availing himself of knowledge already at hand which shall tend to increase health and happiness. He must apply this knowledge under conditions which he can either create or modify. Euthenics is to be developed through sanitary science, through education, and through relating science and education to life.

"Mrs. Richards strongly urged the education of all women in the principles of sanitary science, as the key to race progress in the twentieth century. Sanitary science, above all others, when applied, benefits the whole people, and raises the level of productive life. As long ago as 1892 the president of the British Medical Association said: 'The whole future progress of sanitary movement rests, for its permanent and executive support, upon the women of our land.' . . . .

"However far the science of eugenics may carry the race towards perfection, unless its sister science, euthenics, goes hand in hand, the race will again deteriorate as surely as it has in the past. Accepting them together, as guiding principles in the evolution of life, man may yet build for himself a temple worthy of an unconquerable soul."

Concerning this Conference we quote in addition from an editorial in the *Journal of the American Medical Association* of January 17.

"The purpose of the Battle Creek Conference, as officially stated, was 'to assemble evidence as to the extent to which degenerative tendencies are actively at work in America and to promote agencies for race betterment.' Under the first head were papers on apparent increase in degenerative diseases, the causes of the declining birth-rate, crime, deterioration of civilized women, factory degeneration, alcohol and tobacco, social evil, and delinquent and defective children. On the constructive side were discussions on eugenics in many of its phases. The program impressed one as being overloaded on the degenerative side—possibly because of an overemphasis of the subject at the present time—and as too much given over to a discussion of the past and present conditions rather than of constructive plans for the future. The general effect left on the mind of the listener was that the many papers and addresses, most of them excellent in themselves, were not correlated and were written often from conflicting, if not contradictory points of view, while many of those in attendance impressed the careful observer as being earnest rather than informed, and zealous rather than discriminating. The impressive, undeniable fact, however, is that they were there. It is possible today for the first time in the history of civilization to call and to hold a conference to discuss, not time-worn dogmas or even present-day needs, but future possibilities. From this point of view, such conferences must command the careful attention of the student of social development.

"Whatever one may think of the individual views expressed, or of the immediate, concrete results of such gatherings, the fact is in itself significant that such a conference, extending over five days and attended by thousands of people, is possible. Never before in the history of civilization have there been so many men and women who were earnestly, sincerely and unselfishly laboring for the general good. One may criticize their reasoning, dissect their statistics or draw from their premises entirely different conclusions, but the important fact remains that such conferences, which are becoming increasingly frequent, would have been impossible and practically inconceivable a generation ago. The pessimist and the critic see in such gatherings only another symptom of universal unrest and discontent. The optimist sees in them faintly foreshadowed the dawning of the age of which Tennyson sang, when each man's good shall be all men's aim.

Vocational Conference

The Third Vocational Conference on Opportunities for Women in Occupations other than teaching was held under the auspices of the women students of the University of Wisconsin at Madison, Wis., February 11, 12, 13. Prominent professional women addressed the Conference on their respective occupations, and gave an insight into professional life.

According to Miss Helen Bennett, Manager of Chicago Bureau of Occupations, "Every college woman today has to choose a profession. First, she finds it a financial necessity; second, she wants to preserve her self-respect and intellectual interest; and third, she wants to develop herself by doing something with her valuable education.

"In choosing a profession, she must take stock of her capabilities and be honest with herself. Her college education is merely a foundation upon which she needs to build up her profession. A psychological attitude of interest, enthusiasm, and perseverance are her greatest aid in winning out in her profession."

The Chicago Bureau of Occupations for Women is working for the economic development of women's occupations. It investigates various lines of work and offers vocational guidance in placing women in professions at a commission of 3 per cent of the first year's salary, with a registration fee of one dollar.

Mrs. Annette McCrae, the first landscape architect of America, attributed attainment of success in any profession to determination, concentration, and a spirit of "never let go."

Noted representatives from the various fields occupied by women gave their opinions and suggestions. Some of the recommendations are noted here for the consideration of enterprising women.

Opportunities in secretarial work are many, such as business, visiting, social, and private secretary. The training for secretarial work ought to consist of a college education, travel, business experience, and self-training in conscientious effort and alert observation. The more technical training should include stenography, typewriting, double entry bookkeeping, card cataloguing and filing. Secretaries receive salaries varying from $1000 to $5000 a year.

The state offers a wide opportunity in civil service, in positions calling for clerks and clerical assistants, investigators, and managers of institutions. In the cities, positions are offered for sanitary inspectors, truant officers, playground directors, librarians, and social workers.

These positions demand technical training in various lines, such as physical culture, sociology, civics, philanthropy, or institutional management. A year of practical experience as investigator, clerk, or social worker is usually required. The salaries vary from $600 to $2000 per year.

The kinds of federal positions offered are those for institutional managers, matrons and nurses in state hospitals and asylums; teachers in state schools and reformatories; investigators and field workers; inspectors of state institutions, factories, and labor conditions; and organizers of welfare work. A college education with special study of sociology, economics, and political science, supplemented with earnest endeavor in practical experience is necessary for social service. Salaries vary from $900 to $1800, the most common being about $1200.

Nursing is one of the many professions in which women undoubtedly excel men. A nurse must have a wide breadth of sympathy; she must be strong, physically

and mentally; she must be patient, tactful, tolerant, and kind, and should have a thorough educational foundation. The salaries of nurses, especially those having a college education, are good, and depend greatly on the kind of work done.

Opportunities are offered in public health nursing, in social service and welfare work, and in secretarial work as well as in private and hospital nursing.

Our cities need good housekeeping as well as do our homes. Excessive smoke, filth, unsanitary food supplies, and improper sewage disposal are conditions in the cities which increase the death rate and lower human efficiency. Such conditions need the supervision and care of the municipal housekeeper.

Farm Woman Expert

The position of farm expert is a comparatively new one among the many positions capably filled by women. North Dakota, in its progressive steps toward rural improvement, has appointed to this position Miss Mildred Veitch, a university woman and a farmer. Her work will be especially directed toward the farm home into which she will seek to introduce the best labor-saving devices. She will also give advice in home management and try to bring about among the farm women such an attitude toward their work that drudgery will be eliminated and the women will find time to meet together for helpful discussion.

Oread School

Ten boys at Sparks, Md., are hoping and working for the realization of the Oread School of Country Life. They credit Mr. B. H. Crockeron with the plan for a school to teach boys how to make a good living on the land, and to instill into them a love for the country so that they will go back to their respective neighborhoods inspired to "plow, preach or teach the doctrine of their school—a better country life."

Mr. B. H. Cocheron, who is now professor of extension work in the University of California, inspired the boys beside their frequent camp-fires when he was in Sparks where the community was practically reconstructed by his ability to solve or transform any problem that presented itself. Mr. Crocheron has promised to return and head the school as soon as the boys get the funds. The boys are progressing rapidly, both in amounts collected and sympathy gained. They have the coöperation of many noted men, such as Mr. Joseph Wing, rural expert; Dr. W. A. Spillman, U. S. Department of Agriculture; Mr. Gifford Pinchot, former chief forester; and prominent business men of Baltimore.

A board of regents has been appointed to advise on the questions which arise and it is proposed that the school become a National School of Country Life.

Purity Congress

A most important gathering in the interest of the annihilation of commercialized vice and the promotion of social and personal purity was the Seventh International Purity Congress. It was held last November in Minneapolis, Minn., under the direction of the World's Purity Federation, with the coöperation of government officials and eminent reformers and philanthropists. This federation and its former international gatherings have done much to bring about the present agitation against the social evil and to create an intelligence which makes possible a sane discussion of such problems.

Home Economics in Turkey

The *New York Times* reports that the Ottoman government has decided to admit women to the universities, where a special course of lectures on hygiene, domestic economy, and the rights of women will be delivered for their benefit.

In enlightened Ottoman circles the government's new measure is regarded as an appropriate means for regenerating the world of Islam and placing it on a level with the civilization of the West.

Progress in Japan

In the *London News*[1] we find this report of progress in Japan:

"The so-called 'new woman' is in evidence in Japan, as almost everywhere else. In 1900 there was opened in Tokio a large University for women. Every subject is dealt with there, and schools of commerce, agriculture, and industry generally form a part of it. There are various other signs of the times. Miss Aki-ko, who founded the Bluestockings' Club of Japan, for example, has published several novels and gives lectures, although she has not adopted European dress. The club publishes a monthly review."

The frontispiece of this JOURNAL shows the food laboratory at the Tokio University for Women an illustration that accompanied the report.

ANNUAL MEETING OF THE AMERICAN HOME ECONOMICS ASSOCIATION

JUNE 30–JULY 3, 1914

The Western Reserve University, Cleveland, Ohio, has offered us hospitality for the annual meeting. As the Institution Economics Section will not meet at the same time, the meeting will not cover so many days as the last one. It will open Tuesday evening, June 30, and continue until Friday noon, July 3. The arrangement of last year, whereby one-third of the day will be left free, will again be made.

The Western Reserve dormitories will accommodate ninety of those in attendance, and the rest can be cared for at the Young Woman's Christian Association in Cleveland. Exact data as to cost cannot be given yet, but living expenses for the three days need not exceed $10. There will be no attempt to secure special railroad rates, as it was proved last year that not enough people took advantage of the offer to make it possible to get such rates.

As the 1915 meeting is to be in Seattle, those who cannot attend that should avail themselves of the opportunity to go to Cleveland. Last year's meeting was the most successful in the history of the Association, but this year's promises to be fully as interesting.

[1] *Illustrated London News*, American edition, 53, 1913, no. 1388, p. 887.